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TRANSCRIPT OF RECORD

Supreme Court of the United States

OCTOBER TERM, 1948

No. 237

WISCONSIN ELECTRIC POWER COMPANY,
PETITIONER,

vs.

THE UNITED STATES OF AMERICA

ON WRIT OF CERTIORARI TO THE UNITED STATES COURT OF APPEALS
FOR THE SEVENTH CIRCUIT

PETITION FOR CERTIORARI FILED AUGUST 21, 1948

CERTIORARI GRANTED OCTOBER 18, 1948.

SUPREME COURT OF THE UNITED STATES

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INDEX

	Original	Print
Record from D.C.U.S., Eastern District of Wisconsin	1	1
Placita (omitted in printing)	1	
Complaint	2	1
Summons and return	5	3
Answer	6	4
Plaintiffs' bill of particulars	7	5
Exhibit "A"—Dairies included in claim for refund	8	6
Stipulation of facts	9	7
Exhibit "A"—Dairies included in claim for refund	14	13
Exhibit "B"—Tax paid by plaintiff	15	14
Exhibit "C"—Schematic diagram of a dairy plant layout	17	14
Exhibit "D"—Emmer Bros. Dairy—Scope of business	19	15
Exhibit "E"—Luick Dairy Co.—Scope of business	21	17
Exhibit "F"—Golden Guernsey Dairy Coop.—Scope of business	24	20
Exhibit "G"—Blochowiak Dairy Co.—Scope of business	27	23
Exhibit "H"—Layton Park Dairy Co.—Scope of business	30	26

JUDD & DETWEILER (INC.), PRINTERS, WASHINGTON, D. C., NOV. 9, 1948.

Record from D.C.U.S., Eastern District of Wisconsin—
Continued

	Original	Print
Stipulation of facts—Continued		
Exhibit "I"—Leo Galles (Port Washington Dairy)—Scope of business	33	29
Exhibit "J"—Pabst Farm—Scope of business	35	31
Exhibit "K"—Rolland J. Ruby—Scope of business	39	35
Exhibit "L"—Borden Milk & Ice Cream Co.—Scope of business	41	37
Exhibit "M"—South Side Dairy—Scope of business	45	41
Exhibit "N"—Westfield Dairy—Scope of business	47	43
Transcript of proceedings of trial	49	45
Caption and appearances	49	45
Opening statement on behalf of plaintiff	49	45
Opening statement on behalf of defendant	51	47
Witnesses for plaintiff:		
Robert Fisher	56	52
Hugo H. Somner	66	62
Witnesses for defendant:		
William P. Mortenson	90	86
George Schiek	101	97
Joseph F. Heil	102	99
Robert E. Manning	115	112
Reporter's certificate (omitted in printing)	121	
Plaintiff's exhibit No. 1—Schematic diagram of a dairy plant layout	123	118
Defendant's exhibit "A"—Public Health Bulletin No. 245 (Dec. 1938) (Portions of)	125	119
Opinion, Duffy, J.	140	134
Findings of fact and conclusions of law	147	141
Judgment	154	147
Notice of appeal	155	148
Statement of points	156	149
Appeal bond (omitted in printing)	160	
Stipulation as to record on appeal	162	153
Clerk's certificate (omitted in printing)	163	
Proceedings in U.S.C.C.A., Seventh Circuit	164	155
Placita	164	155
Appearances of counsel	165	155
Minute entry of argument and submission	168	156
Opinion, Kerner, J.	169	157
Judgment	172	159
Recital as to issuance of mandate	173	159
Clerk's certificate	174	160
Order allowing certiorari	175	161

[fol. 1]

[Placita omitted]

[fol. 2]

**IN THE DISTRICT COURT OF THE UNITED STATES
FOR THE EASTERN DISTRICT OF WISCONSIN**

Civil Action No. 1680

WISCONSIN ELECTRIC POWER COMPANY, Plaintiff,

vs.

UNITED STATES OF AMERICA, Defendant

COMPLAINT—Filed November 1, 1944

To the Honorable Judge of the District Court for the
Eastern District of Wisconsin:

Plaintiff, Wisconsin Electric Power Company, for a complaint herein against the defendant, alleges and shows to the court:

1. Plaintiff, Wisconsin Electric Power Company, is a corporation duly organized and existing under the laws of the State of Wisconsin and at all times mentioned herein was engaged, pursuant to its articles of incorporation, in the conduct of an electric utility furnishing electrical service to the public in the Cities of Milwaukee and Racine and in territory adjacent thereto pursuant to due authority. Plaintiff is and was at all times mentioned herein a resident and citizen of the Eastern District of Wisconsin and at all times had and still maintains its principal office and place of business in the City of Milwaukee, Milwaukee County, Wisconsin.

2. This is a suit of a civil nature brought to recover internal revenue taxes known as Federal Electricity Taxes (Section 616 (a) of the Revenue Act of 1932, as amended, Section 3411 (a) of the Internal Revenue Code) unlawfully imposed upon the plaintiff and collected from it by the defendant and now held and retained by the defendant. Jurisdiction is conferred upon this court by paragraph 20 of Section 24 of the Judicial Code (U. S. C. A., Title 28, Section 41-(20). The amount in controversy exclusive of interest and costs in this suit is less than the sum of Ten thousand (\$10,000.00) dollars.

3. During the period from April 1, 1940, to July 31, 1943, inclusive, plaintiff furnished electrical energy to certain customers, to wit, various dairies in and about the City of Milwaukee and the City of Racine, Wisconsin, engaged in the pasteurization of milk and for the purpose of such pasteurization, in respect of which electrical energy the plaintiff paid Federal Electricity Tax at the rate of 3% of the amount billed in the period from April 1, 1940, to June 30, 1940, inclusive, and such tax at the rate of $3\frac{1}{3}\%$ thereafter. During such period all electrical energy so furnished was billed and collected at rates prescribed by the Public Service Commission of Wisconsin under Chapter 196 of the Wisconsin Statutes, and the plaintiff did not increase its rates for any class of service to include or reimburse the plaintiff for the tax imposed by said Section 616 (a). The tax so paid was not collected from consumers but was borne entirely by the plaintiff.

4. On May 25, 1944, the plaintiff seasonably filed its claim for refund of such tax in the principal amount of Six thousand eight hundred six and 84/100 (\$6,806.84) dollars on the ground that such sales of electrical energy had been erroneously treated in the plaintiff's returns as sales for domestic and commercial consumption, whereas, the principal use of such energy and the principal business conducted by such customers at the premises where such energy was consumed was the processing of dairy products by the pasteurization and bottling of milk, energy for which operations is exempt from tax under the Act and applicable Regulations as determined by the Circuit Court of Appeals for the Tenth Circuit in *United States v. Public Service Company of Colorado*, 143 Fed. (2d) 79. Such claim was filed with the Collector of Internal Revenue at Milwaukee, Wisconsin, and thereafter, on October 16, 1944, the Commissioner of Internal Revenue rejected and disallowed such claim for refund upon the sole ground that the Commissioner does not acquiesce in the determination of the Circuit Court of Appeals for the Tenth Circuit.

5. There is justly due and owing to the plaintiff by reason of such excess collection and the rejection of claim for refund therefor the sum of Six thousand eight hundred six and 84/100 (\$6,806.84) dollars, with interest from February 1, 1942 (the approximate average date of such payments).

[fol. 4] Wherefore, plaintiff demands judgment against the defendant pursuant to law in the sum of Six thousand eight hundred six and 84/100 (\$6,806.84) dollars with interest as aforesaid together with its costs herein.

James D. Shaw and Van B. Wake, Attorneys for Plaintiff. Address: 773 North Broadway, Milwaukee 2, Wisconsin.

Duly sworn to by L. F. Seybold. Jurat omitted in printing.

[fol. 5] IN DISTRICT COURT OF THE UNITED STATES
 • • (Caption—1680) • •

SUMMONS

To the above named Defendant:

You are hereby summoned and required to serve upon James D. Shaw and Van B. Wake, plaintiff's attorneys, whose address is 773 North Broadway, Milwaukee, Wis., an answer to the complaint which is herewith served upon you, within sixty days after service of this summons upon you, exclusive of the day of service. If you fail to do so, judgment by default will be taken against you for the relief demanded in the complaint.

B. H. Westfahl, Clerk of Court (Seal of Court).

Date: November 1, 1944.

Note.—This summons is issued pursuant to Rule 4 of the Federal Rules of Civil procedure.

RETURN ON SERVICE OF WRIT

I hereby certify and return, that on the First day of November, 1944. I received the within summons and complaint at Milwaukee, Wis., and served the same by delivering to and leaving with T. T. Cronin, U. S. District Attorney, a true copy thereof, and I further certify that I served the Attorney General of the United States by mailing to him at Washington, D. C., by registered mail, a true copy thereof; the First day of November, 1944, at Milwaukee, Wis.

Anton J. Lukaszewicz, United States Marshal, By
 James G. Carnahan, Deputy United States Marshal

Marshal's Fees
 Travel \$0.06
 Service 4.00

 4.06

Endorsed: District Court of the United States. • • (Caption—1680) • • Summons in Civil Action. Returnable not later than sixty days after service. (Filed Nov. 3, 1944.) James D. Shaw and Van B. Wake, 773 North Broadway, Milwaukee, Wisconsin, Attorneys for Plaintiff. (Rec'd Marshall, U. S. Nov. 1, 1944.)

[fol. 6] IN THE DISTRICT COURT OF THE UNITED STATES

• • (Caption—1680) • •

ANSWER—Filed March 8, 1945

The defendant admits the averments in paragraphs 1 and 2 of the complaint; admits that electrical energy was furnished by plaintiff to various dairies in and around the cities of Milwaukee and Racine, Wisconsin, as alleged in paragraph 3, but, as concerns the extent, if any, to which the dairies were engaged in pasteurization of milk and as to who bore the burden of tax, defendant avers that it is without knowledge or information sufficient to form a belief as to the truth thereof, but defendant is informed and believes and on information and belief alleges that much of the electrical energy furnished to the said customers was for purposes other than the pasteurization of milk, and except as indicated in this clause, the allegations of paragraph 3 are admitted; admits the allegations of paragraph 4 concerning the filing of the refund claim and its rejection, but expressly denies the allegations of paragraph 4 to the extent, if any, that they imply that electrical energy sold or consumed was exempt from tax; denies paragraph 5.

Wherefore, having fully answered the complaint, the defendant demands that it be dismissed and that costs be awarded to the defendant.

Timothy T. Cronin, United States Attorney, by E.
 J. Koelzer, Assistant United States Attorney, 358
 Federal Bldg., Milwaukee, Wisconsin.

[fol. 7] IN THE DISTRICT COURT OF THE UNITED STATES
(Caption—1680)

PLAINTIFF'S BILL OF PARTICULARS—Filed February 8, 1945

To: Messrs. Timothy T. Cronin, U. S. Attorney, and E. J. Koelzer, Assistant U. S. Attorney, Attorneys for the defendant.

Please Take Notice that the annexed schedule marked "Exhibit A" and incorporated herein by reference is submitted as and for a Bill of Particulars in the above-entitled action, in compliance with the order of the Court entered on January 8, 1945, directing the plaintiff to furnish within thirty days thereafter the names and addresses of all companies and persons engaged in the operation of dairies to whom the plaintiff sold electrical energy in the period of April 1, 1940, to July 31, 1943, and the facts as to the metering of such energy to said companies and persons.

Dated, this 31st day of January, 1945.

James D. Shaw and Van B. Wake, Attorneys for the Plaintiff, by Van B. Wake.

EXHIBIT "A"

Wisconsin Electric Power Company
Milwaukee, WisconsinDairies Engaged in the Pasteurization of Milk Which Were Included in the Claim for Refund
of Electrical Energy Tax Filed May 25, 1944

Dairy Customer	Address	Number of Electric Service Meters	Kind of Service
Borden Co., Gridley Div.	620 N. 8th St., Milwaukee 3, Wisconsin	2	Three-Phase, Direct Current
Emmer Bros. Dairy	2879 N. 30th St., Milwaukee 10, Wis.	2	Three-Phase
Luick Dairy Co.	1132 N. 6th St., Milwaukee 3, Wis.	1	Three-Phase
Clover Lane Dairy Coop.	5042 W. State St., Milwaukee 8, Wis.	2	Three-Phase
Golden Guernsey Dairy Coop.	2206 N. 30th St., Milwaukee 8, Wis.	1	Three-Phase
Blochowiak Dairy Co.	2934-38 S. 9th St., Milwaukee 7, Wis.	1	Three-Phase
Gehl's Guernsey Farms Inc.	3326 W. Capitol Dr., Milwaukee 9, Wis.	1	Three-Phase
Wilke Dairy Co.	3187 N. Booth St., Milwaukee 12, Wis.	2	Single-Phase, Three-Phase
Albert Voigt	2759-A N. 10th St., Milwaukee 6, Wis.	2	Three-Phase
Golden Harvest Dairy Co.	2728 N. 33rd St., Milwaukee 10, Wis.	3	Single-Phase, Three-Phase
Green Valley Guernsey Dairy	1817 S. 72nd St., West Allis 14, Wis.	1	Single-Phase
Layton Park Dairy Co.	2929 W. Forest Home Ave., Milwaukee 7, Wis.	1	Three-Phase
Mike Marciniak	3826 E. Pulaski Ave., Cudahy, Wis.	1	Three-Phase
Leo Galles	116 E. Pier St., Pt. Washington, Wis.	2	Single-Phase
Dairy Distributors Inc.	1609 E. North Ave., Milwaukee 2, Wis.	2	Single-Phase, Three-Phase
Maple Hill Dairy	1827 S. 76th St., West Allis 14, Wis.	3	Single-Phase, Three-Phase
Werking Dairy	513 W. Grand Ave., Pt. Washington, Wis.	2	Single-Phase
Peter Kwecis	734 S. Spring St., Pt. Washington, Wis.	2	Single-Phase
Pabst Farms	Rural Route, Oconomowoc, Wis.	1	Three-Phase
George W. Guenther	Rural Route, West Allis 14, Wis.	1	Single-Phase
Rolland J. Ruby.	Rural Route, Waukesha, Wis.	1	Single-Phase
John Hofmann	Rural Route, Hales Corners, Wis.	1	Single-Phase
Waterford Creamery	Waterford, Wisconsin	2	Three-Phase
Borden Milk & Ice Cream Co.	1010 13th St., Racine, Wisconsin	1	Three-Phase
Cloverleaf Dairy	3344 Douglas Ave., Racine, Wis.	3	Single-Phase, Three-Phase
Progressive Dairy	1214 Lathrop Ave., Racine, Wis.	1	Three-Phase
South Side Dairy	2519 Jerome Blvd., Racine, Wis.	2	Single-Phase
Westfield Dairy	1609 Yout St., Racine, Wisconsin	2	Single-Phase, Three-Phase

STIPULATION OF FACTS—Filed September 25, 1946

The parties hereto, by their respective counsel of record, hereby agree that for the purpose of this litigation and upon any hearing of this cause, the following facts shall be taken to be true. It being further agreed that either party may offer evidence at the hearing tending to establish other facts not inconsistent with those herein stipulated to be true:

1. In this action, the plaintiff, hereinafter at times referred to as the taxpayer, is suing to recover internal revenue taxes levied and collected under the direction of the Commissioner of Internal Revenue, who purported to act under the authority of Section 3411A of the Internal Revenue Code. Plaintiff is a Wisconsin corporation and at all times herein mentioned was engaged in the business of supplying electrical energy to the public in the cities of Milwaukee and Racine, Wisconsin, and in territory adjacent thereto. Its principal office and place of business is in Milwaukee.

2. During the period from April 1, 1940 to July 31, 1943, the taxpayer was supplying electrical energy to certain customers engaged in the dairy business in and about Milwaukee and Racine, Wisconsin. The names of the dairies and the addresses from which their operations are directed are as disclosed in the bill of particulars which has been filed herein (and essentially is duplicated as Exhibit A hereto), which also shows the number of electric service meters through which the electrical energy supplied is measured to the respective customers. Where one meter is shown, all energy consumed at the location indicated, whether for light or for power, is measured through that meter. Where two or more meters are used, the customer, in some cases, takes part of its energy under a refrigeration service rate, which is lower than regular commercial or power service rates, but which refrigeration service rate allows only use of refrigeration equipment, plus 25 per cent thereof of other incidental equipment other than lights. In other cases, [fol. 10] two or more meters may be necessary because the customer has both single phase and three phase power equipment. The separate power meters are not so con-

nected to the load as to enable the energy supplied for one purpose or another in the operations of the dairy plant to be differentiated.

3. The taxes paid by plaintiff in respect of the electrical energy furnished to the customers listed on Exhibit A during the period April 1, 1940 to July 31, 1943 are shown in detail on Exhibit B attached hereto. The rate of tax on and prior to June 30, 1940 was 3%, and thereafter was $3\frac{1}{3}\%$.

4. On May 25, 1944, the taxpayer filed a refund claim with the Collector of Internal Revenue at Milwaukee, demanding refund of the taxes paid as shown by Exhibit B, on the ground that such sales of electrical energy had been erroneously treated in its tax return as sales for domestic and commercial consumption. Thereafter, on October 16, 1944, the Commissioner of Internal Revenue rejected and disallowed that claim for refund.

5. The dairies which consume the electricity make contracts with farm producers at various places in Wisconsin to purchase their milk daily and at other regular intervals. In some instances, as noted in Exhibits D through N, the producers deliver the milk to the dairies. Except as noted in Exhibits D through N, each of the dairies delivers its milk and other dairy products directly to consumers by use of horse-drawn vehicles and trucks. The consumers to whom the products are delivered are regular customers, and the drivers of the vehicles, who are the employees of the dairies, in delivering the milk cover definite territories or routes each day, delivering regularly to each customer on alternate days, except where specific additional deliveries are requested by such customers. Before the war, deliveries were made daily, and sometimes even more frequently. In some instances, as noted in Exhibits D through N, milk and other dairy products are sold and delivered by the dairies for resale, such as to restaurants, hotels and stores. For all these operations, each dairy maintains a fleet of trucks and other vehicles, and drivers. In most cases, the drivers have standing orders to deliver specified amounts of milk each day. In other cases, the amounts are specified at the time of delivery. The drivers also collect for the milk delivered, obtaining payment from some customers in advance for the milk, from some at the time of delivery, and from some by the week.

[fol. 11] 6. The City of Milwaukee, by ordinance, requires that milk sold in the City shall be pasteurized, and the State of Wisconsin has prescribed standards of purity in respect of milk sold within the State. Accordingly, at the various dairies to which the plaintiff sells electrical energy, where the milk is received in bulk and from which it is distributed to consumers in bottles or cans, the milk is pasteurized and tested or examined, in addition to being received, weighed, cooled, bottled, temporarily stored and removed for subsequent delivery.

Milk may contain various bacteria, including those responsible for souring, but also sometimes bacteria or germs derived from unclean conditions in the drawing of milk, the cows themselves, the persons attending them, or the handling or distribution of the milk at the dairies or en route. The purpose of pasteurization is to reduce detrimental bacteria or germs, if they exist, to low tolerances, to prevent the ill consequences which might result to the consumer from their presence.

7. The handling of the milk between receipt and sale involves substantially the following acts in all of the dairies described in Exhibit A, whether the milk is brought to the plant directly from the dairy's own cows (instances of this will appear below or in the exhibits attached hereto), or from milk stations or country milk routes:

If the weather is so unfavorable as to require it, the milk is cooled immediately to temperature to which it will be best kept after it has been weighed and tested for butter fat. The milk is then mixed and standardized, i. e., by adding richer or leaner milk (in butter fat content) as may be indicated. Except when the exhibit may specifically show some sale of unpasteurized milk, the milk is next pasteurized.

Pasteurization is ordinarily accomplished by passing the milk from the receiving vats through pipes to vats which are heated to approximately 140-145 degrees F., which is less than boiling. This temperature is maintained for 30 minutes and then the milk is passed over cooling coils and thereby chilled to about 40 degrees before it is further handled. In the course of pasteurizing milk, the temperature is carefully checked and maintained at the desired level.

After leaving the pasteurization vats and coolers, the milk comes to tanks, from which it is drawn to be bottled, except as it is sold in cans to large users or enters into

by-products. The bottles or cans have been washed, sterilized and cooled. After bottling, it is stored from several hours to a day to permit the cream line to form and to await delivery. It continues in this cold storage until sale or distribution. Such cold storage rooms are maintained at approximately 40 degrees temperature.

8. All of the "plants", including the offices, and garage space for collecting and distributing trucks, are lighted. In each plant, electric motors are used for some or all of the following purposes: for pumping refrigerants, for delivering milk to, through and from the pasteurizers by pumps as necessary, for operating the homogenizer, where there is one, as shown in the Exhibits, for delivering milk to the bottling machines, for operating the bottling machine, for operating cream separators, and for operating some of the machinery used in washing, sterilizing and conveying bottles. The larger dairies differ from the smaller ones chiefly in the number of units available for different operations, such as a larger number of pasteurizing vats, more bottling machines, etc. As to several of the dairies where there may be additional uses of electricity, the data will be found in Exhibits D to N, referred to in the next paragraph hereof.

9. Exhibits D to N, attached hereto, relate specifically to some one dairy involved in this case, and the following subjects, among others, are covered:

The quantity of milk received by the dairy on the average day during the period involved in this lawsuit.

The number of motors in use during the period, showing their function.

The gross receipts of the business in a typical year, and the percentages thereof applicable generally to sales, during the period involved, in respect of the various products delivered and sold to customers.

The daily yield of the plant during the period covered.

Variations from the normal situation as described in Paragraphs 7 and 8 hereof, and in Exhibit C.

Total personnel and duties assigned.

10. No specific exhibit has been prepared with respect to the following dairies:

1. Borden Co., Gridley Division.
2. Clover Lane Dairy Coop.

3. Gehl's Guernsey Farms, Inc.
4. Wilke Dairy Co.
5. Albert Voight.
6. Golden Harvest Dairy Co.
7. Green Valley Guernsey Dairy.
- [fol. 13] 8. Mike Marciniak.
9. Dairy Distributors, Inc.
10. Maple Hill Dairy.
11. Werking Dairy.
12. Peter Kwecis.
13. George W. Guenther.
14. John Hofmann.
15. Waterford Creamery.
16. Cloverleaf Dairy.
17. Progressive Dairy.

In respect to these, no differentiating factor was found from one or more of the dairies covered more completely. It has been agreed that as to dairy numbered 1, above, the specific information as supplied in Exhibit E may be applied to it as sufficiently accurate; as to dairies numbered 2, 4, and 15, the information in Exhibit H may be applied; as to dairies numbered 3, 9 and 17, the information in Exhibit G; as to dairies numbered 5, 6, 10 and 16, the information in Exhibit D; as to dairies numbered 7, 11, 12 and 13, the information in Exhibit N; as to dairy numbered 8, the information in Exhibit I; and as to dairy numbered 14, the information in Exhibit K.

11. From studies in several dairies here involved, and comparison with statistics relating to dairy costs generally, it may be taken as true that in all the dairies named in Exhibit A, except Pabst Farm, the cost of raw milk is approximately 9.6 cents per quart; of plant operations (as described in this stipulation in the light of the various exhibits) about 1 cent per quart; and of distributing bottled milk and other products, about 4 cents per quart.

12. For purposes of this litigation, it is agreed that the plaintiff has not included the tax in the cost of the electrical energy with respect to which it was imposed, nor collected the amount of the tax from the vendee.

Dated this 25th day of September, 1946.

(Signed) Van B. Wake, Attorney for Plaintiff, United States of America. (Signed) Timothy T. Cronin, United States Attorney. (Signed) William B. Waldo, Special Assistant to the Attorney General. (Signed) Philip R. Miller, Special Assistant to the Attorney General, Attorneys for Defendant.

EXHIBIT "A"

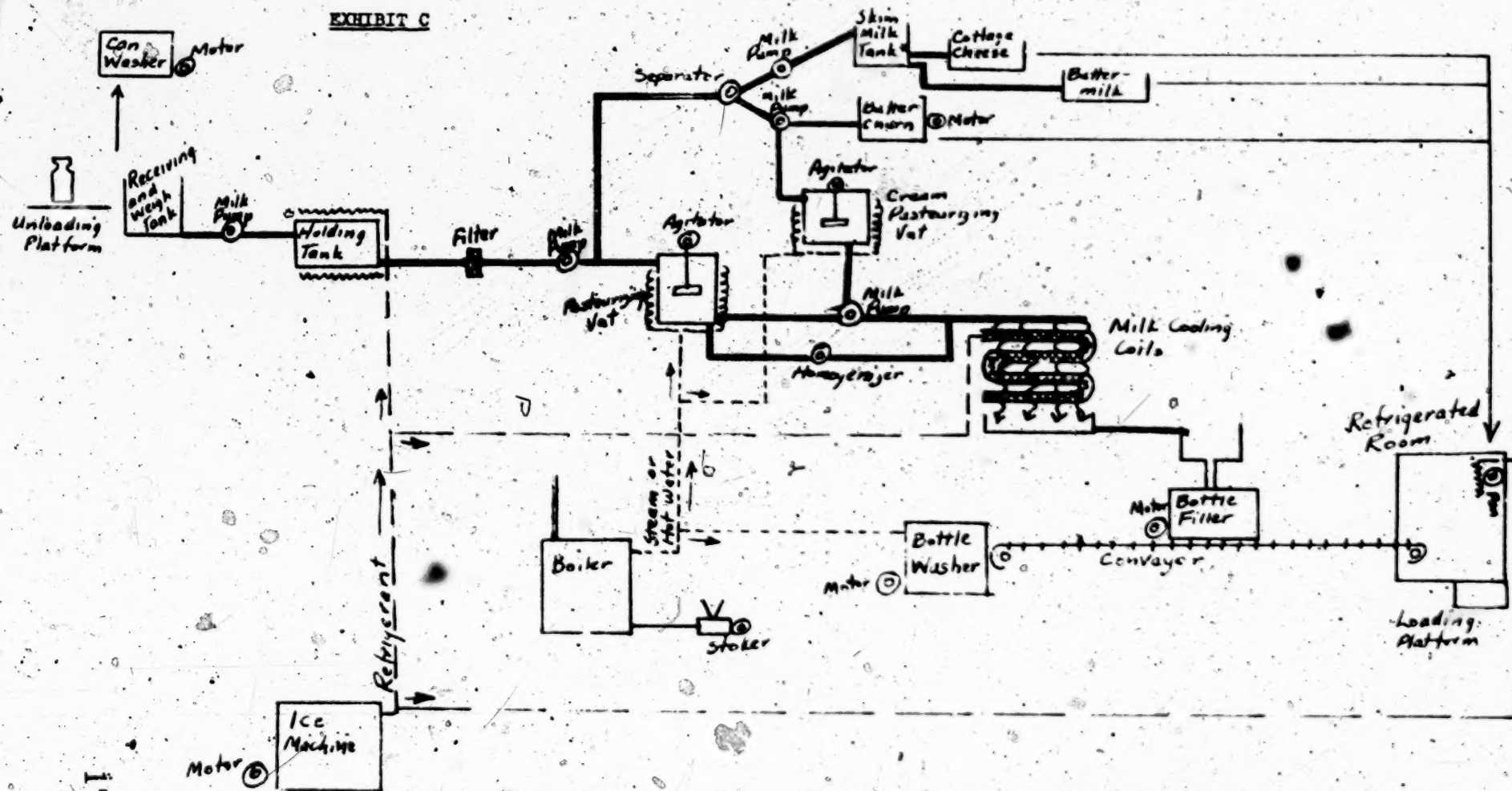
Wisconsin Electric Power Company
Milwaukee, Wisconsin

Dairies Included in the Claim for Refund of Electrical Energy Tax Filed May 25, 1944

Dairy Customer	Address	Number of Electric Service Meters	Kind of Service
Borden Co., Gridley Div.	620 N. 8th St., Milwaukee 3, Wisconsin	2	Three-Phase, Direct Current
Emmer Bros. Dairy	2879 N. 30th St., Milwaukee 10, Wis.	2	Three-Phase
Luick Dairy Co.	1132 N. 6th St., Milwaukee 3, Wis.	1	Three-Phase
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Wilke Dairy Co.	3167 N. Booth St., Milwaukee 12, Wis.	2	Single-Phase, Three-Phase
Albert Voigt	2759-A N. 10th St., Milwaukee 6, Wis.	2	Three-Phase
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Mike Marciniak	3826 E. Pulaski Ave., Cudahy, Wis.	1	Three-Phase
Leo Galles	116 E. Pier St., Pt. Washington, Wis.	2	Single-Phase
Dairy Distributors Inc.	1609 E. North Ave., Milwaukee 2, Wis.	2	Single-Phase, Three-Phase
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Rolland J. Ruby	Rural Route, Waukesha, Wis.	1	Single-Phase
John Hofmann	Rural Route, Hales Corners, Wis.	1	Single-Phase
Waterford Creamery	Waterford, Wisconsin	2	Three-Phase
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Progressive Dairy	1214 Lathrop Ave., Racine, Wis.	1	Three-Phase
South Side Dairy	2519 Jerome Blvd., Racine, Wis.	2	Single-Phase
Westfield Dairy	1609 Yout St., Racine, Wisconsin	2	Single-Phase, Three-Phase

photo,

EXHIBIT C



NOTE: One milk pump may perform one or more of the above-indicated pumping operations if portable milk pumps are used or if suitable piping connections are installed.

- Skim milk is also pasteurized; either in the skim milk tank or in one of the other pasteurizing vats.

[fol. 19].

EXHIBIT D

Emmer Bros. Dairy, 2879 North 30th Street, Milwaukee,
Wisconsin

Scope of Business

This dairy is engaged in the business of purchasing, pasteurizing, bottling, keeping refrigerated and selling and distributing milk and cream. Some cottage cheese and chocolate milk are also prepared and sold. The milk received at this plant is purchased from farms and is collected by two trucks owned by Emmer Bros. The output of this plant is sold entirely to homes and is delivered by eleven trucks owned by the dairy.

Daily Receipts of Milk: 10,000 lbs. milk.

Daily Yield of Plant: Pasteurized milk and
cream—80 per cent. Cottage cheese and choco-
late milk—20 per cent

Gross Receipts per Year: \$200,000

Employees: Office and Plant

Distribution

4

10

Total

14

[fol. 20]

EXHIBIT D

EMMER BROTHERS DAIRY
2879 North 30th Street
Milwaukee, Wisconsin

No. of Units	*Machines	Rated Horse- power Output	Equiva- lent Kilowatt Input	Esti- mated Hours Daily Use	**Kilowatt-Hrs. Daily Consumption
1	Milk Receiving				
1	Milk can washer.....	1/4	0.2	2	0.4
1	Milk pump—receiving tank to pas- teurizing vats.....	1/4	0.2	2	0.4
					0.8
1	Cream Separation				
	Cream separator.....	1/2	0.4	3	1.2
	Pasteurization (Excl. of cooling and unassigned plant operations)				
3	Pasteurizing vats—agitator.....	3/4	0.7	3	2.1
1	Milk pump—through cooling coils	1/4	0.2	6	1.2
1	Brine pump—through cooling coils	2	1.7	3	5.1
					8.4
	Cooling For Pasteurization, Ageing and Holding				
1	Ice machine—milk cooling coils and refrigerator.....	25	21.5	8	172.0
1	Brine pump—to refrigerator.....	1	0.9	12	10.8
3	Circulating fans in refrigerator.....	3/8	0.3	8	2.4
					185.2
1	Cottage Cheese Manufacture				
	Cheese grinder.....	3/4	0.7	5	0.4
	Bottle Washing and Bottling				
1	Bottle washer.....	3 1/4	2.8	6	16.8
1	Bottle filler.....	1/4	0.2	6	1.2
1	Bottle conveyor.....	1/4	0.2	6	1.2
					19.2
	Boiler Room (Steam or hot water for pasteurizing, bottle washing and plant heating)-				
1	Stoker.....	3/4	0.7	3	2.1
1	Hot water pump.....	1	0.9	1	.9
					3.0
	Lighting				
	Entire plant lighting.....		2.5	6	15.0
	Total.....				233.2

Note: Based on operations in August, 1946.

* Both parties reserve the right to show that the categories in which the devices or motors are placed above do not properly reflect their functions.

** The Kilowatt-Hours Daily Consumption represents the Rated Horsepower Output of each motor times the estimated Hours of Daily Use and does not necessarily represent actual kilowatt hour consumption.

[fol. 21]

EXHIBIT E

Luick Dairy Company

1132 North 6th Street

Milwaukee, Wisconsin

Scope of Business

This dairy is engaged in the business of receiving, pasteurizing, bottling and keeping refrigerated and selling and distributing of milk and cream. Some milk is homogenized. The customer also prepares smaller quantities of buttermilk and cottage cheese. Butter is churned during parts of the year, but none was being churned at the time of the inspection. It also sells chocolate milk and orange drink, which it prepares by mixing with concentrates which it purchases. This company also has three distribution branches at other locations in the city, for which no exemption from tax is claimed, and part of each day's output of this plant is delivered to these three distribution branches after being bottled or packaged. All products remaining at this plant are loaded on route wagons for distribution throughout the city and suburbs to route customers, and there is no retail store on the premises. Approximately forty per cent of the sales represent wholesale sales. The milk received at this plant is purchased from farmers and is delivered directly to this location by the farmer or other hauler.

Daily Receipts of Milk: 175,000 lbs. Milk (20,000 gals.)

Daily Yield of Plant: Pasteurized milk, 16,500 gals.
(includes 4,500 gals. also homogenized.)

Pasteurized cream, 800 gals.

Buttermilk, 500 gals.

Cottage cheese, 1300 lbs.

Chocolate milk, 1300 gals.

Orange drink, 500 gals.

Butter (none at time of inspection.)

Employees:

Office and sales 42

Plant operation 107

Distribution operating
from this location 71

Total at this location 220

Distribution operating
from branches 150

EXHIBIT E

LUICK DAIRY COMPANY

1132 North 6th Street
Milwaukee, Wisconsin

No. of Units	*Machines	Rated Horse- power Output	Equiva- lent Kilowatt Input	Esti- mated Hours Daily Use	**Kilowatt-Hrs. Daily Consumption
Milk Receiving					
1	Milk can elevator	7½	6.5	5.5	35.8
1	Pump at weigh tank	2	1.7	5.5	9.4
1	Air compressor on weigh tank	2	1.7	5.5	9.4
2	Can washer pump	10	8.6	5.5	47.3
1	Milk pump—to holding tanks	1	0.9	1	.9
1	Milk pump—through cooler to holding tanks	2	1.7	4	6.8
Cream Separation					
1	Agitator on holding tank for sepa- rator	1½	1.3	6	7.8
1	Milk pump—to separator	2	1.7	5	8.5
1	Cream separator	5	4.3	3	12.9
Pasteurization (Exclusive of cooling and unassigned plant operations)					
4	Pasteurizing vats—agitators	6	5.2	9.5	49.4
1	Air compressor—controls on pas- teurizing vats	½	0.4	2	0.8
3	Holding tanks—agitators	4	3.4	6	20.4
4	Holding tanks—agitators	6½	5.6	8	44.8
1	Milk pump—into pasteurizing vats	3	2.6	5	13.0
2	Milk pumps—out of pasteurizing vats through cooling coils	4	3.4	5	17.0
1	Cream pasteurizing vat—agitator	1	0.9	8	7.2
2	Milk pumps—cream through cool- ing coils	4	3.4	5	17.0
1	Cream vat—cooling cream after heated for pasteurizing	1½	1.3	3	3.9
1	Cream pasteurizing vat—agitator and pump	1½	1.3	5	6.5
1	Skim milk pasteurizing vat— agitator and pump	1½	1.3	5	6.5
1	Milk pump—cream and skim milk through cooling coils	1	0.9	5	4.5
2	Hot water pumps	15	12.9	10	129.0
1	Hot water pump	½	0.4	4	1.6
Milk Homogenizing					
1	Homogenizer	20	17.2	1	17.2
1	Homogenizer	40	34.4	2	68.8
1	Separator for Homogenizers	3	2.6	2	5.2
By-Products Manufacture					
2	Butter churns (used intermittently)	6			
1	Cottage cheese starter tank	¼	0.2	3	0.6

* Both parties reserve the right to show that the categories in which the devices or motors are placed above do not properly reflect their functions.

** The Kilowatt-Hours Daily Consumption represents the Rated Horsepower Output of each motor times the estimated Hours of Daily Use and does not necessarily represent actual kilowatt hour consumption.

[fol. 23]

EXHIBIT E (Continued)
LUICK DAIRY COMPANY
 1132 North 6th Street
 Milwaukee, Wisconsin

No. of Units	Machines	Rated Horse- power Output	Equiva- lent Kilowatt Input	Esti- mated Hours Daily Use	Kilowatt-Hrs. Daily Consumption
4	Agitators and pumps on 2 vats for making orange drink and pasteurizing skim milk	3	2.6	5	13.0
2	Agitators on vats for pasteurizing chocolate milk	3	2.6	4	10.4
1	Holding tank—skim milk	1½	1.3	3	3.9
1	Buttermilk pasteurizing vat	1½	1.3	3	3.9
					31.8
	Cooling for pasteurization, Ageing and Holding				
1	Ice machine	40	34.4	7	240.8
1	Generator set for Ice machine	6½	5.6	7	39.2
2	Ice Machines	100			
1	Brine pump	15	12.9	16	206.4
1	Brine pump	25			
1	Brine tank agitator	2	1.7	16	27.2
2	Cooling units in refrigerator	3¾	3.3	15	49.5
					563.1
	Bottle Washing, Bottling and Handling				
2	Motors on bottle washer	4	8.4	9	30.6
1	Motors on bottle washer	7½	6.5	12	78.0
3	Storage tanks—after pasteurization, before bottling	4½	3.8	3.5	13.3
6	Motors on bottle fillers	2	1.7	10	17.0
2	Hooding machines	1¾	1.1	10	11.0
2	Case conveyors	2	1.7	10	17.0
1	Case conveyor	3	2.6	12	31.2
2	Case conveyors	4	3.4	9	30.6
1	Solution pump—for pipe cleaning	2	1.7	3	5.1
1	Pipe washing tank pump	½	0.4	3	1.2
					235.0
	Boiler Room (Hot water or steam for pasteurizing, bottle and can washing and plant heating)				
3	Stokers	4	3.4	10	34.0
1	Boiler fan	3	2.6	10	26.0
					60.0
	Freight Elevator				
1	Elevator motor	7½	6.5	3	19.5
	Ventilating and Heating				
9	Unit fans	9¾	8.4	4	33.6
4	Heaters	¾	0.6	4	2.4
2	Blower	6	5.2	7	36.4
					72.4
	Lighting				
	Entire plant lighting		30	12	360.0
	Total				1,893.4

Note: Based on operations in December, 1945.

* Both parties reserve the right to show that the categories in which the devices or motors are placed above do not properly reflect their functions.

** The Kilowatt-Hours Daily Consumption represents the Rated Horsepower Output of each motor times the estimated Hours of Daily Use and does not necessarily represent actual kilowatt hour consumption.

Golden Guernsey Dairy Coop.

2206 North 30th Street

Milwaukee, Wisconsin

Scope of Business

This dairy is a cooperative company organized in 1930, owned by the milk producers and is engaged in the business of bringing, receiving, pasteurizing, bottling, keeping refrigerated, and selling and delivering of milk and cream. The milk is purchased from the producers and is collected by five dairy-owned trucks and twelve trucks owned by the producers. Some milk is homogenized. The customer also prepares powdered skim milk, butter, cottage cheese, buttermilk, and mixes from concentrates chocolate milk. The products of this plant are distributed entirely to homes by 140 trucks owned by the dairy.

Daily Receipts of Milk: 145,000 lbs. milk.

Daily Yield of Plant: Pasteurized milk and cream, approximately 127,000 lbs.

Buttermilk, 2,500 lbs.
 Powdered skim milk, 1,000 lbs.
 Cottage cheese, 10,000 lbs.
 Butter, 1,500 lbs.
 Chocolate milk, 3,000 lbs.

Gross Receipts per Year:

\$3,500,000.00
 Milk 63%
 Cream 12%
 Butter 20%
 Buttermilk
 Chocolate Milk
 Powdered skim milk } 5%
 Cottage Cheese

Employees:

100%
 Office 20
 Plant Operation 60
 Distribution 150
 Total 230

[fol. 25]

EXHIBIT F

GOLDEN GURNSEY DAIRY CO-OPERATIVE
2206 North 30th Street
Milwaukee, Wisconsin

No. of Units	*Machines	Rated Horse- power Output	Equiva- lent Kilowatt Input	Esti- mated Hours Daily Use	**Kilowatt-Hrs. Daily Consumption
Milk Receiving					
3	• Milk can washers and dryer	12½	10.7	5	53.5
1	Milk can conveyor	2	1.7	5	8.5
2	Milk pumps—in receiving room	3	2.6	5	13.0
					75.0
Cream Separation					
2	Cream separators	4	3.4	5	17.0
1	Separator pump	1	0.9	5	4.5
1	Laboratory testing machine	¼	0.2	4	0.8
					22.3
Pasteurization (Excl. of cooling and unassigned plant operations)					
3	Large pasteurizing vats — Hot water pumps and agitators	5	4.3	9	38.7
9	Small pasteurizing vats — Hot water pumps and agitators	3¼	2.8	8	22.4
2	Separate agitators on small pasteurizing vats	½	0.4	8	3.2
5	Holding tank agitators	10	8.6	9	77.4
2	Milk pumps	2¾	2.4	9	21.6
2	Portable milk pumps	1	0.9	4	3.6
2	Cream pasteurizing vats—agitators	1¼	1.1	1	1.1
1	Cream pasteurizing vats — Hot water pump	3	2.6	1	2.6
					170.6
Cooling for pasteurization, Ageing and Holding					
1	Ice Machine—Milk cooling coils	50	43.00	7	301.0
1	Ice Machine—Milk cooling coils	25	21.5	16	344.0
1	Ice Machine—Refrigerator cooling	40	34.4	12	412.8
3	Circulating fans in refrigerator	6	5.2	24	124.8
					1182.6
Milk Homogenizing					
1	Homogenizer	40	34.4	4	137.6
Butter Manufacture					
1	Butter churn	3	2.6	3	7.8
1	Butter cutter and packager	¼	0.2	6	1.2
					9.0
Powdered Skim Milk Manufacture					
4	Motors on skim milk dryer	10¾	9.3	8	74.4
Buttermilk and Cottage Cheese Manufacture					
3	Buttermilk and cottage cheese pasteurizing vats	3	2.6	4	10.4
2	Hot water pumps	8	6.9	4	27.6
1	Cottage cheese grinder	1	0.9	1	.9
1	Cottage cheese filler	¼	0.2	5	1.0
					39.9

* Both parties reserve the right to show that the categories in which the devices or motors are placed above do not properly reflect their functions.

** The Kilowatt-Hours Daily Consumption represents the Rated Horsepower Output of each motor times the estimated Hours of Daily Use and does not necessarily represent actual kilowatt hour consumption.

EXHIBIT F (Continued)

GOLDEN GURNSEY DAIRY CO-OPERATIVE

2206 North 30th Street

Milwaukee, Wisconsin

No. of Units	*Machines	Rated Horse- power Output	Equiva- lent Kilowatt Input	Esti- mated Hours Daily Use	**Kilowatt-Hrs. Daily Consumption
Bottle Washing, Bottling and Handling					
2	Bottle Conveyors — to Bottle washers	4	3.4	12	40.8
1	Bottle Conveyors — to bottle washers	1	0.9	2	1.8
2	Bottle Washers—water pumps	15	12.9	9	116.1
2	Bottle Washers—motor drive	2	1.7		15.3
1	Case washer	2	1.7	9	15.3
1	Small delivery can washer	1	0.9	4	3.6
2	Bottle fillers	2	1.7	9	15.3
1	Bottle capper	1	0.9	1	0.9
1	Bottle capper	1 $\frac{1}{4}$	0.2	4	0.8
3	Conveyors in refrigerator	7	6.0	12	72.0
					281.9
Water Supply					
1	Deep well pump	25	21.5	18	387.0
Boiler Room (Steam or hot water for pasteurizing, bottle and can washing and plant heating)					
1	Oil burner	7 $\frac{1}{2}$	6.5	14	91.0
1	Oil burner	1	0.9	18	16.2
1	Oil burner	5	4.3	10	43.0
1	Boiler oil feed	1	0.9	3	2.7
1	Boiler—make-up water pump	5	4.3	4	17.2
1	Hot water pump	3 $\frac{1}{4}$	0.7	3	2.1
1	Hot water pump	5	4.3	1	4.3
1	Condensate pump	1 $\frac{1}{2}$	0.4	3	1.2
					177.7
Freight Elevator					
1	Elevator motor	7 $\frac{1}{2}$	6.5	3	19.5
Garage					
1	Air compressor	3	2.6	8	20.8
	Miscellaneous Shop Tools	1	0.9	4	3.6
					24.4
Heating and Ventilating					
6	Garage	3	2.6	2	5.2
2	Receiving Room	1 $\frac{1}{2}$	1.3	5	6.5
2	Plant	2	1.7	14	23.8
1	Office	2	1.7	24	40.8
1	Air conditioning compressor	5	4.3	8	34.4
					110.7
Lighting					
	Office, garage, receiving room and laboratory lighting		30	12	360.0
	Plant lighting		12.5	12	150.0
	Cottage cheese and buttermilk room lighting		2.5	8	20.0
					530.0
Total					3242.6

Note: Based on operations in August, 1946.

* Both parties reserve the right to show that the categories in which the devices or motors are placed above do not properly reflect their functions.

** The Kilowatt-Hours Daily Consumption represents the Rated Horsepower Output of each motor times the estimated Hours of Daily Use and does not necessarily represent actual kilowatt hour consumption.

[fol. 27]

EXHIBIT G

Blochowaik Dairy Co.
2934-38 South 9th Street
Milwaukee, Wisconsin

Scope of Business

This dairy is engaged in the business of purchasing, pasteurizing, bottling, keeping refrigerated, and selling and delivering, of milk and cream. Some milk is homogenized. The customer also prepares butter, cottage cheese, and mixes with concentrates — chocolate milk. The milk received at this plant is purchased from farmers and is delivered to the plant by the producers. Occasionally some milk and cream is purchased from other dairies to supply an unusual demand. Eighty per cent of sales are made to homes. Delivery of the finished products is made to homes, stores and restaurants with thirty trucks and wagons owned by the dairy.

Daily Receipts of Milk: 35,000 lbs. of milk.

Daily Yield of Plants: Pasteurized milk and cream—
70%

Butter	}	30%
Cottage Cheese		
Chocolate Milk		

Employees:

Office	7
Maintenance & Repair	7
Plant Operation	22
Distribution	36
Total	72

[fol. 28]

EXHIBIT G

BLOCHOWIAK DAIRY COMPANY

2934-38 South 9th Street

Milwaukee, Wisconsin

No. of Units	*Machines	Rated Horse- power Output	Equiva- lent Kilowatt Input	Esti- mated Hours Daily Use	**Kilowatt-Hrs. Daily Consumption
	Milk Receiving				
1	Milk can washer	2	1.7	3.5	6.0
1	Milk pump	3	2.6	3.5	9.1
	Cream Separation				
1	Cream separator	2	4.7	1.5	2.6
	Pasteurization (Exclusive of cooling and unassigned plant operations)				
5	Pasteurizing vats—agitators	11¼	1.1	3	3.3
1	Preheater pump	2	1.7	6	10.2
2	Holding tank agitators	2	1.7	5	8.5
2	Milk pumps—through cooling coils	1½	0.4	6	2.4
1	Ultra violet lights—over cooling coils		4.0	4	16.0
	Cooling for Pasteurization, Ageing and Holding				
1	Ice machine — combined cooling system	30	25.8	10	258.0
1	Ice machine — combined cooling system	30	25.8	1	25.8
1	Ice machine — combined cooling system	7½	6.5	14	91.0
1	Refrigerator blower	1	0.9	10	9.0
	Milk Homogenizing				
1	Homogenizer	25	21.5	1.25	26.9
1	Homogenizer	5	4.3	.25	1.1
	Butter Manufacture				
1	Butter churn	5	4.3	1	4.3
1	Butter cutter and packager	1	0.9	1	0.9
	Cottage Cheese Manufacture				
3	Vat agitators	6	5.2	3	15.6
1	Cottage cheese grinder	1½	0.4	.5	0.2

* Both parties reserve the right to show that the categories in which the devices or motors are placed above do not properly reflect their functions.

** The Kilowatt-Hours Daily Consumption represents the Rated Horsepower Output of each motor times the estimated Hours of Daily Use and does not necessarily represent actual kilowatt hour consumption

[fol. 29]

EXHIBIT G (Continued)

BLOCHOWIAK DAIRY COMPANY

2934-38 South 9th Street
Milwaukee, Wisconsin

No. of Units	*Machines*	Rated Horse- power Output	Equiva- lent Kilowatt Input	Esti- mated Hours Daily Use	**Kilowatt-Hrs. Daily Consumption
Bottle Washing and Bottling					
1	Bottle washer	2	1.7	6	10.2
1	Bottle filler	3/4	0.7	6	4.2
1	Vacuum pump for bottle filler	1 1/2	1.3	6	7.8
1	Bottle capper	1 1/2	0.3	6	1.8
1	Bottle capper	1 1/2	0.3	3	0.9
1	Case conveyor	1 1/2	0.2	6	1.2
					26.1
Water Supply					
1	Deep well pump	15	12.9	6	77.4
1	High pressure water pump	5	4.3	11	47.3
					124.7
Boiler Room (Steam or hot water for pasteurizing, bottle and can washing and plant heating)					
1	Stoker	1 1/2	1.3	3	3.9
4	Oil burner	3	2.6	3	7.8
2	Condensate pumps	4	3.4	2	6.8
1	Sump pump	1/4	0.2	5	0.1
					18.6
Freight Elevator					
1	Elevator motor	5	4.3	1	4.3
Garage					
	Miscellaneous tools	1	0.9	25	0.2
1	Air compressor	3	2.6	3.5	9.1
					9.3
Ventilating and Heating					
1	Unit fans—receiving room	1/8	0.1	8	0.8
1	Unit fans—Cheese room	1/8	0.1	8	0.8
1	Unit fans—pasteurizing room	1/8	0.1	8	0.8
2	Unit fans—garage and repair shop	1/8	0.3	2	0.6
1	Unit fans—cooling room	1/4	0.2	6	1.2
2	Ventilators	1/2	0.4	6	2.4
					6.6
Lighting					
	Entire plant lighting		15	6	90.0

Total

770.5

Note: Based on operations in August, 1946.

* Both parties reserve the right to show that the categories in which the devices or motors are placed above do not properly reflect their functions.

** The Kilowatt-Hours Daily Consumption represents the Rated Horsepower Output of each motor times the estimated Hours of Daily Use and does not necessarily represent actual kilowatt hour consumption.

EXHIBIT H

Layton Park Dairy Co., 2929 West Forest Home Avenue,
Milwaukee, Wisconsin

Scope of Business

This dairy is engaged in the business of purchasing, pasteurizing, bottling, keeping refrigerated, selling and delivering, of milk and cream. Some milk is homogenized. The dairy also prepares butter, cottage cheese, buttermilk, prepares from concentrates chocolate milk and orange drink. All the milk is delivered to the plant by the producers. Delivery of the finished products is made from this plant by the customer's vehicles, fifteen trucks and five horse-drawn wagons. Twenty-five per cent of the output is sold at wholesale and seventy-five per cent is delivered to homes. There are eighteen retail routes and two wholesale.

Daily Receipts of Milk: 30,000 lbs. of milk.

Daily Yield of Plant: Pasteurized Milk and Cream—70%.

Butter, Cottage Cheese, Buttermilk, Chocolate-Milk, Orange Drink—30%.

Gross Receipts For Year: \$620,000.

Employees:

Office	7
Plant	15
Distribution	27
	—
Total	49

[fol. 31]

EXHIBIT H

LAYTON PARK DAIRY CO.
2929 West Forest Home Avenue.
Milwaukee, Wisconsin

No. of Units	*Machines	Rated Horse- power Output	Equiva- lent Kilowatt Input	Esti- mated Hours Daily Use	**Kilowatt-Hrs. Daily Consumption
Milk Receiving					
1	Milk can washer.....	2	1.7	2.5	4.3
1	Milk pump—receiving tank to holding tanks.....	1	0.9	3.5	3.2
					7.5
Cream Separation					
1	Cream separator.....	3	2.6	2	5.2
1	Separator pump.....	1½	1.3	2	2.6
1	Cream tester.....	¼	0.2	.5	0.1
					7.9
Pasteurization (Exclusive of cooling and unassigned plant operations)					
4	Pasteurizing vats—agitators.....	1¼	1.1	4	4.4
1	Milk pump—holding tanks to pas- teurizer vats.....	1	0.9	4	3.6
1	Milk pump—through cooling coils.....	1	0.9	3.5	3.2
3	Holding tank agitators.....	1½	1.3	2	2.6
2	Cream pasteurizing vats.....	¾	0.6	2	1.2
1	Hot water pump.....	3	2.6	4	10.4
					25.4
Milk Homogenizing					
1	Homogenizer.....	15	12.9	1.3	16.8
Cooling for Pasteurization, Ageing and Holding					
1	Ice machine—combined cooling system.....	15	12.9	9.5	122.6
1	Ice machine—combined cooling system.....	15	12.9	3	38.7
1	Ice machine—combined cooling system.....	25	21.5	1	21.5
1	Cold water pump.....	3	2.6	2	5.2
					188.0
Butter Manufacture					
1	Butter churn.....	3	2.6	1.5	3.9
1	Butter packager.....	1	0.9	2	1.8
					5.7
Buttermilk and Cottage Cheese Manufacture					
1	Buttermilk vat.....	¾	0.3	2	0.6
1	Cottage cheese tank agitator.....	¼	0.2	1	0.2
1	Cottage cheese grinder.....	1	0.9	.5	0.5
					1.3

* Both parties reserve the right to show that the categories in which the devices or motors are placed above do not properly reflect their functions.

** The Kilowatt-Hours Daily Consumption represents the Rated Horsepower Output of each motor times the estimated Hours of Daily Use and does not necessarily represent actual kilowatt hour consumption.

[fol. 32]

EXHIBIT H (Continued)

LAYTON PARK DAIRY CO.
2929 West Forest Home Avenue
Milwaukee, Wisconsin

No. of Units	*Machines	Rated Horse- power Output	Equiva- lent Kilowatt Input	Esti- mated Hours Daily Use	**Kilowatt-Hrs. Daily Consumption
	Bottle Washing, Bottling and Handling.				
1	Bottle washer.....	1	0.9	4	3.6
1	Bottle filler.....	1	0.9	4.5	4.1
1	Vacuum pump on bottle filler.....	1/4	0.2	4.5	0.9
1	Milk pump—to skim milk tank for disposal.....	1	0.9	.5	0.5
	Boiler Room. (Steam or hot water for pasteurizing, bottle and can washing and plant heating)				
1	Stoker.....	1	0.9	5	4.5
1	Freight Elevator				
1	Elevator Motor.....	5	4.3	1	4.3
	Garage				
1	Air compressor—for tires.....	1	0.9	.25	0.2
	Lighting				
	Entire plant lighting.....		10	6	60.0
	Total.....				330.7

Note: Based on operations in August, 1946.

* Both parties reserve the right to show that the categories in which the devices or motors are placed above do not properly reflect their functions.

** The Kilowatt-Hours Daily Consumption represents the Rated Horsepower Output of each motor times the estimated Hours of Daily Use and does not necessarily represent actual kilowatt hour consumption.

[fol. 33]

EXHIBIT I

Leo Galles (Port Washington Dairy), 116 East Pierce
Street, Port Washington, Wisconsin

Scope of Business

This dairy is engaged principally in the business of purchasing, pasteurizing, bottling, keeping refrigerated, selling and distributing milk and cream. He also purchases ice cream mix from a creamery, which is then flavored and frozen at the dairy plant. A small quantity of chocolate milk is also prepared from a concentrate. A retail store maintained in the front of the plant building sells about 25 per cent of the ice cream and a very small per cent of the milk pasteurized and bottled. One truck, company owned, is used to collect milk from the producers and another truck is used for delivery.

Daily Receipts of Milk: 1,200 lbs. milk.

Daily Yield of Plant: Pasteurized Milk—96 per cent.

Chocolate Milk—4 per cent.

Gross Receipts Per year: Milk \$17,850

Ice Cream 7,650

Total \$25,500

Employees:

Office and Plant 3

Collection 1

Distribution 1

Total 5

[fol. 34]

EXHIBIT I

LEO GALLES
116 East Pier Street
Port Washington, Wisconsin

No. of Units	*Machines	Rated Horse- power Output	Equiva- lent Kilowatt Input	Esti- mated Hours Daily Use	**Kilowatt-Hrs. Daily Consumption
1	Milk Receiving				
	Milk pump—weigh tank to pas- teurizing vat.....	¼	0.2	1	0.2
1	Cream separation				
	Cream separator.....	¼	0.3	2	0.6
	Pasteurization (Exclusive of cooling and unassigned plant operations)				
1	Pasteurizing vat.....	¼	0.2	2.5	0.5
1	Milk pump—through cooling coils.....	¼	0.2	2.5	0.5
1	Brine pump—through cooling coils.....	¼	0.2	2	0.4
	Cooling For—Pasteurization; Ageing and Holding				
1	Ice Machine—Milk cooling coils and refrigerator.....	1½	1.3	20	26.0
	Ice Cream Manufacture				
1	Ice cream mixing machine.....	½	0.4	2.5	1.0
1	Ice cream freezing machine and freezing cabinet.....	2	1.7	12	20.4
1	Ice machine—Ice cream finish freezing and holding.....	1½	1.3	20	26.0
	Bottle Washing and Bottling				
1	Bottle washer.....	2	1.7	4	6.8
1	Bottle filler.....	¼	0.3	2	0.6
	Heating and Ventilating				
1	Unit fan.....	¼	0.2	4	0.8
	Lighting				
	Entire building lighting.....				2.6
	Total.....				85.8

Note: Based on operations in August, 1946.

* Both parties reserve the right to show that the categories in which the devices or motors are placed above do not properly reflect their functions.

** The Kilowatt-Hours Daily Consumption represents the Rated Horsepower Output of each motor times the estimated Hours of Daily Use and does not necessarily represent actual kilowatt hour consumption.

[fol. 35]

EXHIBIT J

Pabst Farm, Rural Route, Oconomowoc, Wisconsin

Scope of Business

This dairy is engaged in the business of producing, purchasing and separating milk, pasteurizing the cream, and producing condensed skim milk and powdered skim milk, and keeping refrigerated and selling them. At this location and included in this account are the buildings used for receiving and processing the milk and also the barns in which the customer's milk cows are kept. This customer account is one set of buildings located on a farm of 1,300 acres which contains several other sets of buildings. Practically all farming operations for this farm are conducted from locations other than the one discussed herein. Besides the milk received from the customer's herd of about 200 cows, the milk is also purchased from 210 other dairy farms. The output of this plant is sold mostly to the United States Government and to the bakery trade and ice cream manufacturers. A large portion of these sales is made in Chicago. All milk received was separated. The cream obtained is pasteurized but it is not necessary to pasteurize the skim milk because of the high temperature involved in processing the skim milk.

Daily Receipts of Milk—1944: 33,190,908 lbs. of milk.

Cream separated 3,257,545 pounds

Skim milk from separation 29,933,363 pounds

Yield of skim milk from separation—1944:

Powdered skim milk 14,269,992 lbs.

Sweetened condensed skim 1,530,353 lbs.

Superheated manufactured skim 5,406,335 lbs.

Three to one manufactured skim 4,233,540 lbs.

Skim milk sold 4,313,405 lbs.

Skim milk loss 144,738 lbs.

Held over 35,000 lbs.

Total

29,933,363 lbs.

[fol. 36]

Pabst Farm

Gross Receipts From Sales—1944:

Butter fat	\$754,370.23
Powdered skim milk	178,169.28
Sweetened condensed skim	29,191.86
Sweetened condensed—8 per cent	312.13
Superheated manufactured skim	57,182.22
Three to one manufactured skim	46,171.82
Raw skim milk	46,108.94
Raw milk sold	2,463.13

 \$1,113,969.79

Employee (average for 1944):

Plant Operation	18
Office	2
	—
Total	20

[fol. 37]

EXHIBIT J
PABST FARM
 Rural Route, Oconomowoc, Wisconsin

No. of Units	*Machines	Rated Horse- power Output	Equiva- lent Kilowatt Input	Esti- mated Hours Daily Use	**Kilowatt-Hrs. Daily Consumption
Milk Receiving					
1	Milk can conveyor	2	1.7	6	10.2
1	Milk sampler	$\frac{1}{8}$	0.1	5	0.5
4	Motors on milk can washer	10 $\frac{1}{2}$	9.0	4	3.6
1	Air compressor—on dump scales	$\frac{1}{4}$	0.2	6	1.2
Cream Separation					
3	Cream separators	9	7.7	4.5	34.7
1	Small separator	$\frac{1}{8}$	0.1	2	0.2
1	Holding tank agitator	1	0.9	6	5.4
1	Milk pump to separator	5	4.3	5	21.5
1	Separator disc washer	$\frac{1}{2}$	0.4	1	0.4
1	Cream pump	$\frac{1}{2}$	0.4	5	2.0
1	Skim milk pump	2	1.7	6	10.2
Pasteurizing (Exclusive of cooling and unassigned plant operation)					
2	Pasteurizing vat—agitator	1	0.9	3	2.7
1	Pasteurizing vat—hot water pump	$\frac{1}{2}$	0.4	3	1.2
1	Holding tank agitator	1	0.9	1	0.9
1	Pipe washer	$\frac{1}{2}$	0.4	1	0.4
Powdered Skim Milk Manufacture					
3	Skim milk tanks—agitators	5	4.3	1	4.3
1	Skim milk dryer	15	12.9	6	77.4
1	Skim milk preheater pump	$\frac{1}{2}$	0.4	6	2.4
2	Skim milk pumps	1	0.9	6	5.4
1	Skim milk flaker	3	2.6	6	15.6
1	Skim milk powdering mill	3	2.6	6	15.6
1	Condensate pump for dryer	2	1.7	6	10.2
Skim Milk Condensery					
1	Preheater milk pump	2	1.7	10	17.0
1	Milk pump—condensed milk pump to canner	1	0.9	3	2.7
1	Milk pump—extra unit	2	1.7	1	1.7
1	Condensed skim milk cooling vat	1	0.9	8	7.2
1	Condensate pump	1 $\frac{1}{2}$	1.3	10	13.0
1	Pipe washer	$\frac{1}{2}$	0.4	2	0.8
Cooling for Pasteurizing, Skim Milk Processing, and Holding					
1	Ice machine	20	17.2	20	344.0
1	Refrigerator unit	2	1.7	24	40.8
1	Agitator for water cooling tank	2	1.7	24	40.8
1	Cold water pump—skim milk con- densery	3	2.6	8	20.8

* Both parties reserve the right to show that the categories in which the devices or motors are placed above do not properly reflect their functions.

** The Kilowatt-Hours Daily Consumption represents the Rated Horsepower Output of each motor times the estimated Hours of Daily Use and does not necessarily represent actual kilowatt hour consumption.

[fol. 38]

EXHIBIT J (Continued)

PARST FARM
Rural Route, Oconomowoc, Wisconsin

No. of Units	Machines	Rated Horse- power Output	Equiva- lent Kilowatt Input	Esti- mated Hours Daily Use	**Kilowatt-Hrs. Daily Consumption	
1	Cold water pump — skim milk cooling.....	5	4.3	6	25.8	
1	Cold water pump—cream pasteurizer and cooler.....	2	1.7	5	8.5	
1	Circulating fan in refrigerator.....	$\frac{1}{8}$	0.3	23	6.9	
1	Milk cooler in test barn.....	$\frac{3}{4}$	0.7	12	8.4	496.0
Laboratory						
1	Babcock tester.....	1/15	0.1	1.5	0.2	
1	Testing equipment motor.....	$\frac{1}{8}$	0.1	3	0.3	
2	Hot plates for testing.....		1.5	6	9.0	9.5
Boiler Room						
3	Stokers.....	13	11.2	6	67.2	
1	Draft fan.....	$7\frac{1}{2}$	6.5	10	65.0	
	Boiler meters.....	$\frac{1}{8}$	0.1	24	2.4	
1	Coal hoist.....	1	0.9	1	0.9	
1	Condensate return pump.....	$1\frac{1}{2}$	1.3	8	10.4	
1	Condensate return pump (spare unit).....	3		—		145.9
Water Supply						
1	Main well pump.....	20	17.2	6	103.2	
1	Booster pump.....	$7\frac{1}{2}$	6.5	18	117.0	
1	Small well pump.....	6	5.2	20	104.0	324.2
Miscellaneous						
1	Freight elevator.....	3	2.6	1	2.6	
1	Sump pump.....	2	1.7	7	11.9	
	Miscellaneous shop tools.....	2	1.7	25	0.4	14.9
Heating and Ventilating						
	Unit fans.....	1	0.9	4	3.6	
	Exhaust fans.....	$1\frac{1}{8}$	1.0	2	2.0	5.6
Barn Equipment						
1	Milking machine.....	$1\frac{1}{2}$	0.4	3	1.2	
1	Seed corn and hay drying machine (Used short time seasonally).....	10	8.6	1 Aug.	8.6	9.8
Lighting						
	Dairy building lighting.....		15	6	90.0	
	Barns lighting.....		10	4	40.0	
	Office and miscellaneous lighting.....		5	6	30.0	160.0
Total.....						1434.3

Note: Based on operations in August, 1946.

* Both parties reserve the right to show that the categories in which the devices or motors are placed above do not properly reflect their functions.

** The Kilowatt-Hours Daily Consumption represents the Rated Horsepower Output of each motor times the estimated Hours of Daily Use and does not necessarily represent actual kilowatt hour consumption.

[fol. 39]

EXHIBIT K

Rolland J. Ruby

Rural Route

Waukesha, Wisconsin.

Scope of Business

This dairy is engaged in the business of producing and purchasing, pasteurizing, bottling, keeping refrigerated, selling and delivering milk and cream and in operating the farm on which the dairy is located. Approximately 80 per cent of the milk received at the dairy is produced on this farm. Some chocolate drink and orange drink is prepared from concentrates, and some butter, eggs, cottage cheese and buttermilk are purchased for resale. Ninety-five per cent of the milk sold is pasteurized milk and five per cent is sold as raw milk. Delivery is made by three trucks owned by the customer.

Daily Receipts of Milk: 3,000 pounds of milk.

Gross Receipts Per Year:

Total receipts of dairy and farm	\$51,500
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Receipts from sales of dairy	
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Milk and cream	\$33,000
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All other products	11,000
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Total Dairy Receipts	\$44,000
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Employees (Dairy):

Plant Operation	2
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Distribution	3
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Total	5
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[fol. 40]

EXHIBIT K
ROLLAND J. RUBY
 Rural Route, Waukesha, Wisconsin

No. of Units	*Machines	Rated Horse- power Output	Equiva- lent Kilowatt Input	Esti- mated Hours Daily Use	**Kilowatt-Hrs. Daily Consumption
1	Cream Separation				
	Cream Separator.....	1 1/2	0.3	5	0.2
1	Pasteurization (Excl. of cooling and unassigned plant operations)				
	Pasturizing vat—agitator.....	1/4	0.2	3	0.6
1	Milk pump—through cooling coils.....	1/4	0.2	1.5	0.3
					0.9
	Cooling for Pasteurization, Ageing and Holding				
1	Ice machine.....	2	1.7	6	10.2
1	Circulating fan in refrigerator.....	1/8	0.1	8	0.8
					11.0
	Bottle Washing and Bottling				
1	Bottle washer.....	2	1.7	2	3.4
1	Bottle filler.....	1/4	0.2	1.5	0.3
					3.7
	Boiler Room (Steam or hot water for pasteurization, bottle washing and plant heating)				
1	Oil burner.....	1/8	0.1	5	0.5
1	Boiler water pump.....	1/6	0.2	1	0.2
					0.7
	Water Supply				
1	Well pump for dairy plant.....	3/4	0.7	3	2.1
1	Well pump for dairy plant, barns and house.....	1	0.9	6	5.4
					7.5
	Milk Supply				
1	Milking machine.....	1/2	0.4	2	
	Lighting				
	Dairy plant lighting.....		0.9	2	1.8
	Cow barn lighting.....		.5	5	0.3
	House barn lighting.....		.2	25	0.1
					2.2
	House				
	General household use.....				3.0
	Total.....				30.0

Note: Based on operations in August, 1946.

* Both parties reserve the right to show that the categories in which the devices or motors are placed above do not properly reflect their functions.
 * The Kilowatt-Hours Daily Consumption represents the Rated Horsepower Output of each motor times the estimated Hours of Daily Use and does not necessarily represent actual kilowatt hour consumption.

[fol. 41]

EXHIBIT L

Borden Milk and Ice Cream Company
1010 Thirteenth Street
Racine, Wisconsin

Scope of Business

This dairy is engaged in the business of purchasing, pasteurizing and bottling, and keeping refrigerated, selling and delivering milk and cream. Some milk is homogenized. The customer also manufactures cottage cheese and butter-milk; chocolate milk and orange drink from concentrates which it purchases. Some butter and eggs are purchased for resale, and ice cream, which is manufactured in Milwaukee, is delivered to local customers from this plant. The milk received at this plant is purchased from farmers at the plant. Delivery of the output of this plant is made by twenty-four customer-owned trucks and four trucks are used in the delivery of ice cream. Forty per cent of the output of this plant represents wholesale sales.

This customer pasteurizes milk by a different process than any of the other dairies inspected, utilizing the so-called flash system. In this system of pasteurization, the milk is heated to a temperature of 161 degrees and held at that temperature for 16 seconds, after which it is immediately cooled to approximate 32 degrees. The heating and cooling of the milk takes place in a radiator which makes use of the regenerative process by which the heat of the outgoing milk is used to partially warm the incoming milk. In addition to the regenerative coils, the radiator contains steam coils which are used to heat the incoming milk, and other coils containing cold brine are used to cool the outgoing milk.

Daily receipts of Milk: 25,400 lbs. of milk.

Daily Yield of Plant:

Pasteurized Milk—72 per cent.

Pasteurized Cream—20 per cent.

Cottage cheese

Chocolate milk

Orange drink

Butter

Eggs

8 per cent.

[fol. 42] Gross Receipts Per Year:

Pasteurized Milk and Cream and all other products listed above	\$633,500
Ice Cream Sales (Brought from Milwaukee)	426,500
Total	\$1,060,000

Employees:

Office	6
Plant Operation	23
Distribution	36
Total	65

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EXHIBIT L

BORDEN MILK & ICE CREAM CO.

1010 13th Street
Racine, Wisconsin

*Machines	Rated Horse-power Output	Equivalent Kilowatt Input	Estimated Hours Daily Use	**Kilowatt-Hrs. Daily Consumption	
Milk Receiving					
Milk can washer	2	1.7	2	3.4	
Milk can dryer	1	.9	2	1.8	
Milk can conveyor	1½	1.3	2	2.6	
Milk pump—receiving tank to holding tanks	1½	1.3	3	3.9	11.7
Cream Separation					
Cream separator	2	1.7	3		5.1
Pasteurization (Excl. of cooling and unassigned plant operations)					
Hot water pump for pasteurizer	3	2.6	4	10.4	
Brine pump for pasteurizer	2	1.7	4	6.8	
Milk pump—holding tank to pasteurizer	½	0.4	4	1.6	
Holding tank agitators	¾	0.7	5	3.5	
Milk pump—through pasteurizer	1	0.9	4	3.6	25.9
Cooling for Pasteurization, Ageing and Holding					
Ice machine	30	25.8	10	258.0	
Brine pump	5	4.3	8	34.4	
Brine pump—(auxiliary unit)	5				
Refrigeration units to cool delivery trucks at night	8	6.9	2	13.8	306.2
Milk Homogenizing					
Homogenizer	7½	6.5	1.5		9.8
Buttermilk, Cottage Cheese and Chocolate Milk Manufacture					
Vat agitators	3	2.6	2	5.2	
Milk pump—from vats to holding tanks	⅓	0.3	5	0.2	
Holding tank agitator	⅓	0.3	4	1.2	
Holding tank agitator	¼	0.2	2	0.4	
Cottage cheese culture tank	1/5	0.2	6	1.2	8.2
Ice Cream Handling					
Conveyor for receiving and loading ice cream	2	1.7	2	3.4	
Ice saw	¼	0.2	5	0.1	3.5

Both parties reserve the right to show that the categories in which the devices or
 rs are placed above do not properly reflect their functions.
 The Kilowatt-Hours Daily Consumption represents the Rated Horsepower Output of
 motor times the estimated Hours of Daily Use and does not necessarily represent
 1 kilowatt hour consumption.

[fol. 44]

EXHIBIT L (Continued)*

BORDEN MILK & ICE CREAM CO.

1010 13th Street

Racine, Wisconsin

No. of Units	*Machines	Rated Horse- power Output	Equiva- lent Kilowatt Input	Esti- mated Hours Daily Use	**Kilowatt-Hrs. Daily Consumption
Bottle Washing, Bottling and Handling					
2	Motors on bottle washer.....	8	6.9	6.5	44.9
1	Conveyor for bottle washer.....	1	0.9	2.5	2.3
1	Bottle washer solution pump.....	2	1.7	.25	0.4
1	Bottle filler.....	1½	1.3	7	9.1
1	Conveyors to refrigerator.....	2	1.7	7.5	12.8
Boiler Room					
1	Air compressor—for control in- struments.....	½	0.4	8	3.2
1	Air compressor—(auxiliary unit).....	7½			
Freight Elevator					
1	Elevator motor.....	15	12.9	1	12.9
Garage					
	Machine shop equipment.....	2	1.7	.25	0.4
1	Air compressor—for tires and cleaning.....	2	1.7	2	3.4
Ventilating and Heating					
1	Vacuum pump.....	2	1.7	1.5	2.6
3	Unit fans.....	2½	2.2	8	17.6
Lighting					
	Entire plant lighting.....		15	9	135.0
	Total.....				615.0

Note: Based on operations in August, 1946.

* Both parties reserve the right to show that the categories in which the devices or motors are placed above do not properly reflect their functions.

** The Kilowatt-Hours Daily Consumption represents the Rated Horsepower Output of each motor times the estimated Hours of Daily Use and does not necessarily represent actual kilowatt hour consumption.

[fol. 45]

EXHIBIT M

South Side Dairy
2519 Jerome Boulevard
Racine, Wisconsin

Scope of Business

This dairy is engaged in the business of purchasing, pasteurizing, bottling, and keeping refrigerated, selling and delivering, milk and cream. The customer also prepares from concentrates which it purchases chocolate milk, orange drink and grape drink. Butter, cottage cheese and buttermilk are purchased for resale, the butter being packaged at the plant. The milk is purchased from producers at the plant. Delivery of the finished products is made in four dairy-owned trucks. The cooling system utilized by this customer is a mixture of two types. The ice machine which provides coolant for the milk cooling coils, operates a direct expansion cooling system, and the ice machine which is used to cool the refrigerator, operates a brine system, which requires considerably more running time for the motor than the direct expansion system.

Daily Receipts of Milk: 3,000 pounds.

Gross Receipts for Year:

Pasteurized Milk and Cream	\$55,000
Chocolate Milk)	
Orange Drink)	2,300
Grape Drink)	
Butter)	
Cottage Cheese)	20,700
Buttermilk)	
Total	\$78,000

Employees:

Office and Plant Operation	2
Distribution	4
Extra	1
Total	7

[fol. 46]

EXHIBIT M
SOUTH SIDE DAIRY
 2519 Jerome Blvd.
 Racine, Wisconsin

No. of Units	*Machines	Rated Horse- power Output	Equiva- lent Kilowatt Input	Esti- mated Hours Daily Use	**Kilowatt-Hrs. Daily Consumption
	Milk Receiving				
1	Milk pump—receiying tank to pas- teurizing vats.....	1/2	0.4	5	0.2
	Cream Separation				
1	Cream separator.....	1/4	0.2	1	0.2
	Pasteurization (Exclusive of cooling and unassigned plant operations)				
1	Pasteurizing vat—agitator.....	1/4	0.2	1	0.2
1	Hot water pump for pasteurizing vat.....	1/2	0.4	1	0.4
1	Milk pump—through cooling coils.....	1/2	0.4	1.5	0.6
	Cooling for Pasteurization, Ageing and Holding				
1	Ice machine—milk cooling coils...	4	3.4	1.5	5.1
1	Ice machine—refrigerator.....	3	2.6	8	20.8
	Bottle Washing and Bottling				
1	Bottle washer.....	3/4	0.7	2	1.4
1	Bottle filler.....	1/2	0.4	1.5	0.6
	Heating and Ventilating				
2	Unit fans.....	1/2	0.4	5	2.0
	Lighting				
	Entire plant lighting.....		0.3	3	0.9
	Total.....				32.4

Note: Based on operations in August, 1946.

* Both parties reserve the right to show that the categories in which the devices or motors are placed above do not properly reflect their functions.

** The Kilowatt-Hours Daily Consumption represents the Rated Horsepower Output of each motor times the estimated Hours of Daily Use and does not necessarily represent actual kilowatt hour consumption.

[fol. 47]

EXHIBIT N

Westfield Dairy
1609 Yout Street
Racine, Wisconsin

Scope of Business:

This dairy is engaged in the business of purchasing, pasteurizing, bottling, keeping refrigerated, and selling and delivering milk and cream. The customers also prepares buttermilk, cottage cheese, and occasionally a small amount of butter. It mixes from concentrates chocolate milk. Orange drink and butter are purchased for resale. Milk received at this plant is purchased at the plant. Distribution of the output of this plant is made by four trucks owned by the dairy.

Daily receipts of Milk: 3,700 lbs. of milk.

Gross Receipts Per Year: Milk and Cream	\$67,500
Buttermilk)	
Cottage cheese)	
Chocolate milk)	0,000
Orange drink)	
Butter)	13,500
Total	<u>\$90,000</u>

Employees: Office	1
Plant Operation	2
Distribution	5
Total	<u>8</u>

[fol. 48]

WESTFIELD DAIRY
1609 Yout Street
Racine, Wisconsin

No. of Units	*Machines	Rated Horse- power Output	Equiva- lent Kilowatt Input	Esti- mated Hours Daily Use	**Kilowatt-Hrs. Daily Consumption
Milk Receiving					
1	Milk pump—receiving tank to pas- teurizing vat.....	1/4	0.2	2	0.4
Cream Separation					
1	Cream separator.....	1/2	0.4	1	0.4
1	Testing machine.....	1/8	0.1	5	0.1
Pasteurization (Exclusive of cooling and unassigned plant operations)					
2	Pasteurizing vat agitators.....	1/2	0.4	5.5	2.2
1	Milk pump—through cooling coils.....	1/4	0.2	5	1.0
1	Brine pump—through cooling coils.....	1/4	0.2	5	1.0
Cooling for Pasteurization, Ageing and Holding					
1	Ice machine.....	2	1.7	12	20.4
2	Circulating fans in refrigerator....	1/4	0.2	12	2.4
Butter Manufacture					
1	Butter churn (seldom used).....	1/2		—	
Bottle Washing and Bottling					
1	Bottle washer.....	3	2.6	3.5	9.1
1	Bottle filler.....	1/4	0.2	4	0.8
Boiler Room (Steam or hot water for pasteurization, bottle washing and plant heating)					
1	Boiler water pump.....	1/4	0.2	2	0.4
Lighting					
	Entire plant lighting.....		1	6	6.0
	Total				44.2

Note: Based on operations in August, 1946.

* Both parties reserve the right to show that the categories in which the devices or motors are placed above do not properly reflect their functions.

** The Kilowatt-Hours Daily Consumption represents the Rated Horsepower Output of each motor times the estimated Hours of Daily Use and does not necessarily represent actual kilowatt hour consumption.

[fol. 49] IN THE DISTRICT COURT OF THE UNITED STATES

(Caption—1680)

Transcript of Proceedings of Trial—Filed October 1, 1946

Be It Remembered that heretofore, to-wit, commencing on Wednesday, September 25, 1946, at nine-thirty o'clock A. M. of said day, the above entitled matter came on for hearing before the Honorable F. Ryan Duffy, Judge of said Court, upon the pleadings heretofore filed herein:

APPEARANCES:

Shaw, Muskat & Paulsen, by Van B. Wake, Esq., on behalf of the plaintiff;

T. T. Cronin, United States Attorney; E. J. Koelzer, Assistant United States Attorney; Philip R. Miller, Special Assistant to Attorney General; and W. B. Waldo, Special Assistant to Attorney General, on behalf of the defendant.

(Thereupon the following proceedings were had and testimony taken:)

OPENING STATEMENT ON BEHALF OF PLAINTIFF

Mr. Wake: May it please your honor, perhaps a short opening statement might be in order as to the issues.

The Court: I think so. We did have a pre-trial conference. The matter is not too clear in my mind except that I believe it involves a sale of electrical energy to dairies and whether it is industrial or commercial or something of that sort.

Mr. Wake: I think your honor has a very good conception of where the parties are at issue. We pick up from that point. The law imposes a tax on domestic and commercial—

The Court: In other words, commercial isn't everything that pertains to business but there is a distinction between what might be classed as commercial and then what may be classed as industrial.

Mr. Wake: I believe so. I believe that is implicit in the historical development of the statute, and the regulations [fol. 50] seem to recognize that there is that segregation so far as business activity is concerned.

The Court: What kind of work were the dairies doing that would make them industrial and not as a general commercial? In other words, tell me about that.

Mr. Wake: The dairies are all engaged in pasteurization, at least to some extent. We claim that the major extent of their activity revolves around the pasteurization as a process.

The Court: I suppose dairies do a lot of things. Would you have to show that pasteurization, assuming for a moment that it is an industrial activity, that that was the predominant use of the electrical energy?

Mr. Wake: Well, under one of the regulations the predominant use of the energy at the location does have some significance. The plaintiff's proof will show generally, or attempt to show, the nature of pasteurization and its relationship to the other portions of the plant, both from a functional as well as from an equipment standpoint. The evidence will be in large part supplied through a stipulation as to the general facts. Counsel have participated in endeavoring to ascertain requisite information as to the scope of activity of all of the 28 dairies. In respect of getting that detailed information, however, it was thought that some of them might be characteristic of others, so that from that point of view a few dairies were selected, typified among themselves, and certain others, either by reason of the amount of intake of the raw milk or characteristic which seemed to recommend them as being closely akin in respect of the volume or the type of their operation.

Concerning those which were selected apart from the 17—there are 17 which find themselves grouped characteristically among the balance—but selecting the ones which are thought to be quite characteristic of their class, then more intensive investigation by both the representative of the Treasury Department and the plaintiff went—their joint investigation went into the facts of the situation, and it was after that cooperation that the parties felt, through counsel, that they were able to arrange a stipulation showing generally the factual information.

Now, I should state that the stipulation permits of the introduction of evidence not inconsistent with the terms [fol. 51] of the stipulation itself, and as I told counsel at the outset, we do not challenge nor will not in any respect, of course, attempt to challenge any of the facts to which we

stipulate as to accuracy, but we do reserve the right at an appropriate time to raise questions as to their relevancy or materiality, bearing upon the issue of law.

The plaintiff believes itself to be, in part, under the broad theory of the case of Colorado Public Service Company against the United States. That case upon appeal by the government is reported in 143 Fed. 2d 79, in the Tenth Circuit.

The Court: You say there was an appeal from that? That was the appeal from the District Court? It didn't get to the Supreme Court?

Mr. Wake: No, sir. The parties stand at issue because the commissioner has refused to acquiesce in that decision. Presumably here—and this may be anticipating, in part—

The Court: If they don't agree with that they would like to get some other Court of Appeals to come to a contrary conclusion and get to the Supreme Court?

Mr. Wake: Or, conceivably, the government conceives the facts have been developed more in detail in this case which they claim, I understand, may have a relevancy and may afford some distinguishing characteristics between the adjudicated case and the one here at issue.

OPENING STATEMENT ON BEHALF OF DEFENDANT

The Court: Very well. Does the government desire to make a statement at this time?

Mr. Waldo: If your honor please, I represented the government at the pre-trial. In the meantime, so much work has been done by Mr. Philip Miller that we are going to let him make the opening statement and produce the evidence.

The Court: All right: Is it correct that you do not acquiesce in so far as it is applicable to this case to the decision of the Public Service Company of Colorado case 143 Fed. 2d 79?

Mr. Miller: That is correct, your honor, but in addition to that we believe that there is a distinction between some of the facts in that case and also in so far as the record which we hope to show in this case.

The Court: You may make your statement.

Mr. Miller: The tax was imposed by the statute which [fol. 52] was originally enacted in its present form in 1934,

and it says there shall be imposed upon electrical energy sold for domestic or commercial consumption the tax which is presently equivalent to $3\frac{1}{3}$ per cent.

The Court: Is this going to be another one of those cases that this court will have to pass on what Congress meant when they passed certain legislation that he voted either for or against? Is there any statute?

Mr. Miller: Well, I believe it goes as to both. There is a question of an interpretation of the statute. There is a portion of the regulation which I think is necessarily involved in this case, and it reads as follows, a short paragraph:

"Where electrical energy is sold to a consumer for two or more purposes through separate meters the specific use for which the energy is sold through each meter, that is to say whether for domestic or commercial consumption or for other use, shall determine its taxable status. Where the consumer has all the electrical energy consumed at a given location furnished through one meter the predominant character of the business carried on at such location shall determine the classification of consumption for purposes of this tax."

Now, the government takes the position that milk dealers, that is, individuals who are engaged in the purchase and sale and incidentally storing and packaging of fluid milk, are people who are engaged in a commercial business. The regulation and the statute, we believe, necessarily makes important the determination of the nature of the business rather than the individual consumption where there is not a separate metering for industrial purposes or for commercial purposes. That is, it is conceivable that in some cases, for example, a manufacturer may have a retail outlet and the meter is separately—or the electric company supplies him with a separate meter for each, then, perhaps, it would be possible to say, and the regulation so says that you can determine the specific use under each. However, where the electric company has not installed separate meters, the question becomes what is the predominant character of the business carried on at that location.

The Court: What is the situation here? Is this all through one meter, where we have to determine what is predominant, or is there more than one meter?

Mr. Miller: There has been a bill of particulars furnished

[fol. 53] in this case, which shows that in some cases the electrical energy is furnished.

The Clerk: There is no bill of particulars in the file. Do you have a stipulation of facts?

Mr. Miller: Yes.

The Clerk: That hasn't been filed either.

The Court: Here it is right here. The bill of particulars is in the file.

Mr. Miller: Yes, sir, there is a subject in the stipulation which I think will clarify the question which your honor has raised.

The Court: Well, I notice in Exhibit "A" here it says number of electric service meters; some have two, two of them, I think have three, and the rest have one.

Mr. Miller: That is right, your honor. Now, there is a statement in the stipulation concerning the separate metering or single metering in this case, and that is in Paragraph 2. I can either pass this up or read it to your honor.

The Court: You can read it to me.

Mr. Miller: All right. The portion is in Paragraph 2, which says: "The names of the dairies and the addresses from which their operations are directed are as disclosed in the bill of particulars which has been filed herein, and essentially duplicated as Exhibit 'A' hereto, which also shows the number of electric service meters through which the electrical energy supplied is measured to the respective customers. Where one meter is shown, all energy consumed at the location indicated, whether for light or for power, is measured through that meter. Where two or more meters are used, the customer in some cases takes part of its energy under a refrigeration service rate which is lower than regular commercial or power service rates but which refrigeration service rate allows only use of refrigeration equipment plus 25 per cent thereof other incidental equipment other than lights. In other cases two or more meters may be necessary because the customer has both single-phase and three-phase power equipment. The separate power meters are not so connected to the load as to enable the energy supplied for one purpose or another in the operation of the dairy plant to be differentiated."

In other words, your honor, even in the cases where there are more than one meter they are not metered for the specific purpose of differentiating between the domes-

tic and commercial, on the one hand, and industrial consumption, on the other. So, the government takes the position that in each one of these cases we are in the same position as having to determine the situation with respect to a business where there is only one meter.

Now, we take the view in this case that when the language "sale for domestic or commercial consumption" is used that it is impossible to tell just from the particular operation what is commercial consumption; that is, processes of all kinds are carried out in commercial business, for example, custom tailoring, restaurants and other types of businesses which are obviously commercial in nature, and whatever is done in that business must be determined by the entire nature of the business rather than the particular activity.

The Court: Did the Public Service Company of Colorado case determine that pasteurization was industrial use?

Mr. Miller: I believe the Public Service Company of Colorado case interpreted the language—or found in that case that pasteurization was an industrial use, in response to the argument, or it merely found with respect to the business that as any other manufacturing business was engaged in manufacturing to the extent that pasteurization resembled it, that it also sold the product and did not find anything as to the nature of the business, that is, as to whether or not milk dealers—or, as a matter of fact, it doesn't use that term, but it said that dairies were not engaged in this commercial business and the use of the electricity was not for commercial use.

Now, in this case the government has distinguished between businesses which are dealing in fluid milk, that is, purchasing and selling and distributing fluid milk, and businesses which are engaged in the business of manufacturing butter, manufacturing cheese, and manufacturing ice cream.

Now, in any instance where the predominant nature of the business as disclosed by its gross receipts is such that it may be considered predominantly a manufacturer of ice cream, cheese or butter, the government would take the position that that may be an industrial use. On the other hand, where the predominant nature of the business [fol. 55] is purely dealing in fluid milk, the incidental processing in connection with that does not change the character of the business.

Now, in each one of these cases, with the possible exception of one, the Pabst Farm, each of these businesses is a dairy that engages in the purchasing of milk; it delivers the milk to individual consumers on regular routes and maintains a fleet of trucks and wagons and similar types of delivery equipment, and we believe that the nature of the business in each one of these cases, with the possible exception of Pabst Farm, which is engaged—

The Court: Does Pabst raise just its own milk?

Mr. Miller: Pabst Farm raises its own milk and, in addition to that, it makes skim milk and powdered milk, and I believe ice cream mix and butter fat and similar types of things which are sold in the Chicago area rather than distributed to individual customers or customers on regular routes as is done in the case of some of the others. Some of the dairies in this case are adjuncts to farms; that is, milk is actually produced on the farm and is pasteurized and delivered. To some extent in one of the cases raw milk is delivered and it is not pasteurized. But in each one of these cases the predominant business, measured by gross receipts, activities generally, personnel engaged, is mainly delivering the milk and the receiving of it.

The Court: You may proceed, Mr. Wake.

PLAINTIFF'S EVIDENCE

Mr. Wake: All right. Is the stipulation offered?

Mr. Miller: Yes.

Mr. Wake: For the record—

The Court: A stipulation of facts has now been presented—I assume signed by counsel for each side—which will be received in evidence and will be considered as evidence in the case.

Mr. Wake: We should like for the purposes of the record, your honor, and consistent with my opening statement as to the stipulation, to object to the materiality and relevancy of certain facts which I will now point out.

The Court: Very well.

Mr. Wake: But one objection, of course, does not go to the accuracy or the type of evidence in the manner of presenting it.

On page 3, under Paragraph 5, about the fifth sentence, it starts as follows: "The consumers to whom the prod-

[fol. 56] icts are delivered are regular customers," et cetera throughout the balance of the paragraph. The plaintiff objects on the sole ground that while the evidence is unquestionably true, the plaintiff contends that that matter or the matters therein detailed are not competent, relevant nor material to the issue of law in the case.

Similarly, page 6 of the stipulation, where the reference is next preceding enumerated Paragraph 10: "Total Personnel and Duties Assigned". That is a reference to a description of a type of information that appears on practically all of the detailed exhibits. The plaintiff objects to the information of that character upon the same ground as assigned in the previous objection.

As to the method and manner of detailing all of the rated horse power output, the equivalent kilowatt input, estimated hours daily use—

The Court: What are you talking about now?

Mr. Wake: I am giving some general descriptions—kilowatt hours daily consumption, which is a schedule attached to each dairy study, the plaintiff conceding the approximate accuracy of those figures so far as they originate in estimates does not concede that that is an appropriate form or classification of setting forth the material so far as the issue of law is concerned.

The Court: Well, at this time the objection will be overruled but without prejudice to a later ruling when it comes to that point after the evidence is all in. I can't tell at this time.

Mr. Wake: I should like to call Mr. Fisher to the witness stand.

ROBERT FISHER, called as a witness herein, on behalf of the plaintiff, being first duly sworn, was examined and testified as follows:

Direct examination.

By Mr. Wake:

Q. And your name is?

A. Robert Fisher.

Q. Mr. Fisher, you are a graduate engineer residing in Milwaukee County?

A. I am.

Q. And you hold an engineering degree in what particular branch of the science?

[fol. 57] A. Electrical engineering.

Q. You are associated with the plaintiff here?

A. Yes.

Q. And as part of your duties is it the fact that you and a field man from the Treasury Department jointly made certain field inspections and obtained field data from some of the dairies covered in the stipulation?

A. Yes.

Q. And so far as the personal knowledge that you acquired—you saw approximately how many dairies?

A. We visited eleven dairies for inspection.

Q. And did you attempt to familiarize yourself with the functional aspects of pasteurization as a process?

A. Yes.

Q. And did you, after viewing some of these dairies; also attempt to delve into the literature generally just to bring yourself into theoretical appraisal of pasteurization as a pursuit?

A. Yes, I did.

Q. I show you Plaintiff's Exhibit 1, and ask you if you will identify it for the record merely by telling us its general nature?

A. This is a schematic diagram showing the layout of a dairy plant and illustrating the various equipment in the plant.

Q. Now, I am going to pass the original to the court and ask you to follow the copy. Now, so that there will be no misunderstanding, what is the fact as to whether this drawing purports to be a development of any one dairy under consideration?

A. It was not intended to be an exact picture of any particular dairy.

Q. What is the fact as to whether the drawing purports to be a characterization of pasteurizing as a pursuit?

A. It illustrates the various equipment that a dairy uses in pasteurizing milk and related products. It includes all the main equipment that is used in performing operations upon the milk as it passes through the plant.

Q. You have used various symbols to denote items of machinery or items of equipment thereon?

A. Yes.

Q. Does the proportion of the size of any of those

symbols purport to in any respect be characteristic of that particular item of machinery or equipment, or is that [fol. 58] merely put in there is relative size to facilitate its interpretation?

A. No, there is no element of proportion intended here. They were merely shown in a convenient manner on the paper.

Q. And so far as you recall from your going over the exhibit there are no failures to mark any part of the equipment?

A. No, I don't believe so.

Q. For an interpretation of the drawing generally, milk comes in at the unloading platform, which you have diagramed at the center left of the picture, and after weighing and receiving finds itself into a holding tank; is that right?

A. All of the milk may not go to the holding tank. Some may go directly to the pasteurizing vat. That is especially true of the smaller dairies. The holding tank will hold the milk if the pasteurizing vat cannot accommodate it immediately upon receipt.

Q. And what is the fact as to whether or not some dairies have more than one holding tank?

A. Oh, some dairies may have several items of each of these equipment items.

Q. Including pasteurization vats?

A. Yes. Tanks and pasteurization vats, milk-cooling coils, even bottle fillers—they may have several of them.

Q. And what is the fact as to whether some of the items of equipment, for example, pasteurization vats, are so capable of connection that they can be turned into the intake of the milk at a line or turned over to another line, depending upon when the pasteurization is completed in any vat, so that their use is continuous? Maybe my question is too cumbersome. Are there instances where by means of couplings on the intake of milk the pasteurization vat can be used for one intake pipe or it can be closed off and another pasteurization vat used in connection with that same line?

A. Yes, there are various piping arrangements and the milk can be pumped or run into any vat at will.

Q. Some of them constitute, in effect, batteries of vats, do they?

A. Yes, that is right.

Q. And your line which leads off from the top—or leads off from the main line just short of the first pasteurizing

vat, that proceeds up to a point denoted "Separator". [fol. 59] What is the significance of those lines proceeding out from that central point, "Separator"? /

A. Well, some milk may go—instead of going to the pasteurizing vat, may go through the separator. The skim milk goes one direction and the cream will go in another direction; generally to a pasteurizing vat.

Q. Now, it might appear from an interpretation of your drawing that skim milk as shown in the tank at the top portion of the drawing and the cottage cheese vat which is connected out of the skim milk tank and the butter-milk vat which originates from the skim milk tank are used in connection with a fluid which is not pasteurized. What is the fact?

A. No, there is an asterisk attached to the label "Skim Milk Tank" and a note explains that the skim milk is generally pasteurized, but to avoid complicating the diagram we didn't put that equipment in.

Q. Your symbol marked "Milk Cooling Coils"—will you explain the general indication intended there?

A. I attempted to show the manner in which the milk is cooled suddenly after coming from the pasteurizing vat at high temperature.

Q. The actual process might vary in some respects from dairy to dairy as to precise equipment in use?

A. Yes, there may be variations. Do you want me to explain that?

Q. Yes, if you please.

A. I attempted to show that the refrigerant coming from the refrigerating plant or ice machine flows through a system of coils and the milk runs down from pipes at the top of these coils—milk flows over these coils which contain the cold refrigerant, and by that method the milk is cooled and collected at the bottom at a low temperature.

Q. Refrigerant used in dairies also has another purpose. Will you outline briefly the other purpose?

A. If milk is put into holding tanks and held for any length of time they must be cooled to bring the temperature of the milk down to a point where the bacteria won't multiply so rapidly.

Q. Well, after the milk is bottled where does it pass to customarily?

A. As soon as it is bottled it goes to a refrigerator room.

Q: That room is maintained at desired temperatures by what method or manner?

A. Well, the refrigerant circulates in the refrigerating [fol. 60] room also through various equipment for the purpose of keeping that room cool.

Q. You have shown an homogenizer coming out of the centrally located agitator motor and pasteurizing vat, talking about location. Is it your understanding that an homogenizer is usually set after pasteurizing or are there instances where it is connected so its intake of milk is unpasteurized?

A. I believe generally connected so it homogenized the milk after the heating.

Q. Are there instances where homogenized milk is sold in an unpasteurized state, if you know?

A. Not that I know of.

Q. Now, the symbol denoting your boiler or your method of producing hot water and steam—you show one lead going to your bottle washer and another one denoted "Steam or Hot Water" proceeding to the pasteurizing vat. What significance does that line have to the pasteurizing vat?

A. Well, that is the means of heating that milk to the required temperature for pasteurizing and holding that temperature during the period that it is in that tank or vat.

Q. There are a few dairies, as shown by the stipulation, which have deep well pumps. In what manner would they be related, if at all, to the boiler?

A. To the boiler?

Q. Yes.

A. Well, they would provide the water that is used in the boiler, that is heated.

Q. That is as feed water, for one purpose?

A. Yes.

Q. The alternative would be city water?

A. That is right.

Q. And where a dairy has a deep well from your inspection is another use made of the water?

A. If the water is cold they can also use it for part of their refrigerating purposes.

Q. It would functionally be used and be related to your diagram short of the milk cooling coils or some integral portion of that step?

A. Yes. The cold water may circulate through part of the milk cooling coils.

Q. Now, those deep wells, where their water is used as a portion of the cooling, how is the water drawn from the wells; what device is used for that purpose?

[fol. 61] A. A deep well pump.

Q. And motivated by what?

A. By electric motor.

Q. Your ice machine which has been mentioned now, and is connected both to the refrigerated room and the milk cooling coils—that may be of different types of construction?

A. Yes, there are many types of ice machines.

Q. You call it "Brine Pump". Brine is a combination of ice and salt at some desired proportion, is it?

A. One type of brine is a combination of salt and water.

Q. And there are other types of refrigerants?

A. Yes; many types of refrigerants.

Mr. Wake: We offer Exhibit 1 in evidence for the purposes indicated.

The Court: Exhibit 1 will be received.

(Said document, marked "Plaintiff's Exhibit No. 1," so offered, was thereupon received in evidence.)

Mr. Wake: You may cross-examine.

Cross-examination.

By Mr. Miller:

Q. Mr. Fisher, this diagram does not purport to show the fleet of trucks and wagons and other equipment used by any dairy in delivery by any dairy, does it?

A. No.

Q. In the righthand corner I notice you have a space for the loading platform.

A. Yes.

Q. That doesn't purport to represent an element of proportion of loading in these various other activities—as compared to these activities that you have represented?

A. No, there is no element of proportion intended in this diagram.

Q. And that applies to the refrigeration room as well?

A. Yes.

Q. In some of the dairies that you visited, wasn't this refrigeration room that was used for storage considerably larger than what you have made it here?

A. If you are speaking of proportion as indicated on the diagram I would say yes, it is larger in proportion than is shown here.

Q. In some of these places the storage room for milk was almost as large as the rest of the plant, was it not?

[fol. 62] A. We didn't obtain any floor areas. I can't say.

Q. Well, did you observe?

A. It is generally a large room, yes.

Q. In this refrigeration room they put bottles of milk for the purpose of awaiting delivery, don't they?

A. They are put in there as soon as they are bottled until they are taken out.

Q. Now, when you have the items "Milk Pump" and "Hot Water Pump" in circles, that is, one circle within the other, those are intended to represent motors, aren't they?

A. It is just a symbol denoting the pump and its motor attached.

Q. Now, in many of the dairies which you visited there was no butter being made; isn't that right?

A. That is right; they did not all make butter.

Q. Many of them were not in the business of making butter?

A. That is right; some of them.

Q. And many of them were not in the business of making cottage cheese; isn't that true?

A. Well, not every dairy made everything I have indicated here.

Q. I see. Now, it is a fact, is it not, that most of the dairies did not homogenize milk; is it?

A. I wouldn't say most. Quite a few of them are doing that now.

Q. In the dairies you visited?

A. Yes.

Q. And even in those dairies which did homogenize milk only a part of the milk is homogenized, is it not?

A. Yes.

The Court:

Q. Do you understand an homogenizer to be a machine where the milk is forced through small screens to break down the fat globules?

A. That is my understanding of it.

Mr. Miller:

Q. Have you ever visited a milk plant that does not pasteurize milk, merely cools and bottles it?

A. Not recently. Not during this investigation.

Q. Well, have you at any time?

A. I don't recall of any trip.

[fol. 63] Q. The Ruby Farms does not pasteurize all its milk, does it?

A. I believe he said they pasteurized most of it.

Q. Most of it, but they do not pasteurize all of it?

A. That is my recollection.

Q. Do you have any knowledge as to whether in the Ruby Farms they used the milk cooling coils to cool the milk that came in that was not pasteurized?

A. Well, any milk going through the plant would have to be cooled.

Q. Whether or not it was pasteurized; isn't that right?

A. It would have to be maintained at a low temperature. It wouldn't have to be cooled to the extent that it is if it is heated for pasteurization.

Q. Well, milk comes into the plant or into these dairies usually warmer than the temperature at which it is maintained, does it not?

A. Yes, that is probably true.

Q. And it is cooled for the purpose of maintaining it?

A. Yes.

Q. Now, these milk cooling coils that you have in the picture in this very black portion—that, in part, is nothing but some water pipes over which milk runs, is it not?

A. A series of pipe that may contain cold water, brine or other refrigerant, and the milk flows down over the outside of them.

Q. In many cases it contains nothing but water, doesn't it?

A. No.

Q. Do you know where they obtain that water?

A. Well, they either get water from the city system or from a well.

Q. And in the winter much of that water is considerably colder than the milk, is it not?

A. Well, it is colder than the milk is when it comes from the pasteurizing vat, yes.

Q. And the ordinary lake water which is run through the city water system is adequate in many cases to cool the milk considerably, isn't it?

A. It cools it some.

The Court:

Q. Do you understand by pasteurizing that the heat is applied to the tank containing the milk and kept at a certain degree, say something around 145 degrees, for a certain period of time?

A. That is the heating part of the pasteurization.

Q. Then it is after that process that it goes across these cooling coils?

A. That is right.

Mr. Miller:

Q. As far as you know, Mr. Fisher, in many of these cases doesn't the plain lake water cool the milk to the temperature at which it was received merely by the application—or running the milk over the water in the pipes?

A. I can't tell you the exact temperature to which the water cools the milk.

Q. You don't know that it doesn't?

A. No, I don't know.

Q. Now, this represents, you said, a picture of an average dairy; is that your conception?

A. It is just a picture of what a dairy might be, of all the equipment that is in a dairy.

Q. I see. But you are not attempting to show by this that a layout of an average dairy includes butter churns and cottage cheese vats and buttermilk vats, do you, or homogenizer?

A. I am not contending that every dairy manufacturer has this.

The Court: Don't take the time on useless things that there is no dispute about it. He has gone over that very clearly.

Mr. Miller:

Q. In the case of a larger dairy, Mr. Fisher, isn't it true that mainly the difference between the items you do have in connection with whatever is done to fluid milk—that the devices which are used are mainly mostly multiplication of these? Isn't that true?

A. Yes.

Mr. Miller: That is all.

Redirect examination.

By Mr. Wake:

Q. One question, Mr. Fisher. I understood this question was asked of you, whether or not milk usually comes in warmer than it is desired to be maintained and I believe your answer was yes. What effect, if any, does the mean [fol. 65] temperature of this locality have in response to that question; what did you have in mind?

A. Well, the milk would come in at a lower temperature in the winter time around here than it would in the summer. In fact it may be at a temperature—at quite a low temperature, so that very little cooling is required in the winter time upon receipt.

Q. Do you know from your investigation whether or not upon occasion it actually has to be pre-warmed in handling, or isn't that the fact?

A. That may occur at times.

Q. You don't know what the recorded average mean temperature of this area in Milwaukee County is, do you?

A. It is approximately 46; somewhere around there.

Q. Fahrenheit?

A. Yes.

Mr. Wake: That is all.

Mr. Miller: One question, your honor.

The Court: All right.

Recross-examination.

By Mr. Miller:

Q. Isn't it a fact that in the winter time the lake water which flows through the pipes of the city of Milwaukee is lower than the temperature at which milk is to be kept—at which it is desired to keep it at?

A. No, I wouldn't say it is.

Q. In the winter time?

A. No.

Q. It is not lower than 40 degrees on occasion?

A. I don't believe it is.

Q. Is it in the vicinity of that temperature?

A. I understood it was something higher than that. I don't have the figures here.

Q. You don't know?

A. No.

Mr. Miller: That is all.

The Court: Next witness.

(Witness excused.)

Mr. Wake: I will call Professor Sommer.

[fol. 66] HUGO H. SOMMER, called as a witness herein, on behalf of the plaintiff, being first duly sworn, was examined and testified as follows:

Direct examination.

By Mr. Wake:

Q. Will you state your name, please?

A. Hugo H. Sommer, S-o-m-m-e-r.

Q. Dr. Sommer, your address, please?

A. Madison, Wisconsin.

Q. And your profession or pursuit of learning?

A. Professor of Dairy Industry at the University of Wisconsin.

Q. Will you kindly tell us what portion of your life you have devoted to the study of the dairy industry?

A. Well, in a sense I have been connected with the dairy industry to some degree since my boyhood days, born and reared on a dairy farm, worked in a cheese factory, took academic training which finally led to a position in the Department of Dairy Industry since 1920.

Q. And you have attempted, both intensively and extensively, study of the various ramifications of that industry, have you?

A. That is right.

Q. Have you attempted to keep yourself currently informed as to developments in the art?

A. Yes.

Q. You are the author of one or more textbooks or scientific treatises relating to market milk, are you?

A. I am the author of a text book relating to market milk under the title of "Market Milk and Related Products"; author of a text book on "The Theory and Practice of Ice Cream Making".

Q. The first mentioned treatise—what was its last publication date and the publication house, if you can give it?

A. The text book, "Market Milk and Related Products", was published originally in 1938 and a second edition in 1946; published by myself.

Q. Now, as a matter of information, you have been subpoenaed here by the government and also requested by the plaintiff, Wisconsin Electric Power Company, to appear?

A. That is substantially—

Q. Your services were jointly requisitioned in some manner?

[fol. 67] A. That is right.

Q. To what extent, Doctor, have you given consideration to the art of pasteurization, both as a theoretical process or theoretical art and one of distinct useful application?

A. Well, in treating the subject "Market Milk and Related Products", pasteurization is inevitably a very important part of that treatment and it is necessary to try to keep posted on all ramifications of that subject.

Q. Does the machinery—strike that.

(Question waived.)

Q. Do you have a conception of the relative magnitude of investment required for pasteurization machinery and equipment comparing it generally to the facilities which would otherwise be required for merely receiving milk and bottling it in sterilized bottles?

A. You are speaking just of equipment now as distinct from the plant investment?

Q. Well, yes, equipment first.

A. Well, I have no detailed figures on that, but you would need—I take it you are trying to contrast a raw milk operation—what that might be as against—

Q. That is right.

A. —an operation involving the pasteurization of milk.

Q. That is right.

A. You would need your receiving room operations, which involves conveyors, a weighing-scale, sampling devices, can washer, pumps, storage tank, filter. That equipment would be common to both operations. In pasteurization you would need the pasteurizing equipment, which would be omitted in raw milk operations. From that point on again you would have a similarity with this exception, that where you pasteurize the milk when you are through

with the heating phase of pasteurization you will have the temperature of the milk up to 143 to 145, or if you used the high temperature, short-time process, at 160 degrees Fahrenheit, so that the cooling capacity would have to be greater than where you are bottling raw milk, which in many seasons of the year comes in around 60 degrees Fahrenheit and so the cooling there would be more limited and you wouldn't use much capacity. In both cases you try to cool the milk down to about 38 or 40 degrees Fahrenheit for temporary storage in a cold room prior to your routine delivery. So, in the contrast I have tried to draw [fol. 68] there, it is obvious that the only difference in the investment in equipment for comparable operations as to capacity is concerned, would be in the pasteurizing equipment, such accessory equipment that goes with it, and somewhat greater cooling capacity. Now, I don't know proportionately what part that would be of that investment, but I would think, as a rough estimate, that might be about 15 or twenty per cent of the investment of the equipment.

Q. Now, as a matter of actual practice, what is the fact as to whether or not it is of any importance to quickly induce a lower temperature after pasteurization through the heating phase?

A. The desire for cooling promptly is attributed to the desire of limiting any adverse effects which prolonged heating would have on the milk. There are some who believe that sudden cooling may have some virtue in producing a lethal effect as far as the bacteria are concerned, but that is extremely questionable.

Q. It is still a theory somewhat entertained in respectable quarters, isn't it?

A. I didn't follow you.

Q. The theory you raised is entertained in some respectable quarters, isn't it, the possible lethal effect of sudden, induced lowering of the temperature after the heating phase of pasteurization?

A. I understand. I didn't catch your last word in that.

Q. In some quarters?

A. In some quarters. Yes, I believe that view is held by some.

Q. And as a matter of actual practice most of the dairies with which you are familiar do have a sudden lowering

of the temperature after the heating phase of pasteurization?

A. Yes, they try to do the cooling promptly and quickly.

Q. Now, the portion of the plant as distinguished from the equipment therein—what does your knowledge indicate the relative requirements in a plant are by virtue of the pasteurization equipment or process of pasteurization?

A. (No answer.)

Q. I presume I should round that out by saying either in square feet of floor space or some other conventional type of measurement.

A. Well, that type of contrast is difficult to draw because [fol. 69] pasteurizing plants are generally large plants, because they undertake to handle a much larger volume, a much larger capacity, and a raw milk plant is usually a plant of small capacity. In other words, if they grow to large output it just no longer is as feasible for them to distribute raw milk, and so we have very large pasteurizing plants but only small raw milk plants. If you visualize plants of the same capacity, hourly capacity or daily capacity, the additional floor space required by the pasteurizing and cooling equipment, in turn, would differ according to the type of equipment they use. Where floor space is limited, they choose equipment such as the hot-short pasteurizing equipment which gives you a large capacity and a very limited floor space.

Q. That method is not in general use in this area compared to the other method?

A. I believe it is in use to some extent. I have no survey to show the proportions. If you were using vat pasteurization, then you would need considerably more floor space.

Q. Doctor, from your knowledge of the industry in Wisconsin, are there any plants which you know of, of any magnitude, which are devoted to the intake in preliminary handling of raw milk and the placing it in sterilized containers for immediate sale without the pasteurization process?

A. To my knowledge there is no sizable plant of that type.

Q. So that, from your knowledge and conception of the industry, in Wisconsin at least, pasteurization is an integral part in the operation of every dairy plant of any consequence?

Mr. Miller: I object to that, your honor. I think that would be a conclusion called for.

The Court: Objection overruled. The Doctor may answer.

A. I would say that pasteurization is a typical part of the operation.

Mr. Wake:

Q. Doctor, the production of butter and the related production of by-products, or those that might possibly be termed "by-products", skim milk and buttermilk—in what manner, if any, are they related to pasteurization?

A. They are related to pasteurization in that to produce a well-controlled product, a product with good keeping quality, it is necessary to employ pasteurization.

The Court:

Q. It is necessary to employ what?

A. It is necessary to employ pasteurization. In butter making it would result—omitting pasteurization in the case of butter making would result in a butter which would become rancid very rapidly.

Q. Do they pasteurize skim milk?

A. Skim milk must be pasteurized if it were to be returned to the farms for use as live stock feed as a means of preventing the dissemination of bovine tuberculosis, and it should, by all means, be pasteurized in making cottage cheese out of skim milk; otherwise you are likely to have an off flavor in the cottage cheese and lack of control, lack of uniformity from batch to batch; or if you make cultured buttermilk out of skim milk you would pasteurize it.

Mr. Wake:

Q. In the handling of pasteurization practice, to what extent, if any, is the maintenance of controlled temperatures vital in the art?

A. Exact temperature control is the important part of pasteurization. Your aim is to use a temperature that is sufficiently high to insure the certain destruction of pathogenic organisms without exceeding certain upper limits which would have detrimental effects on flavor and on the creaming property of the milk, and so you watch the tem-

perature very closely so as not to fall below a certain minimum treatment, both with respect to temperature and holding time, and you also watch at the other extreme that you do not exceed certain temperatures and do not exceed certain holding times, and it is because you don't want to exceed the holding time that you use rather prompt and sudden cooling when the holding period is up.

Q. Does the art of pasteurization contemplate consecutive coordinated steps or may the process be conveniently interrupted at any point to be resumed subsequently?

A. No, the timing is a very important part of the process; also, the fluid does not permit of interruption.

Q. You would say, if I understand, that consecutive coordinated steps are inherent in the plant?

[fol. 71] A. That is right.

Q. Is the elevation of a fluid to a high temperature the use of a mechanical or a chemical process, or is there any combination of the two?

A. I don't know that I sensed the exact import of your question.

Q. Would you like the question read or, maybe, would you think I ought to reframe it?

A. Let me attempt to answer it and then you can interrupt me if I missed the mark as to what you had in mind. Your problem is to raise the temperature from about 55 or 60—let's say that is the temperature of the incoming milk; it might be nearer 40 or some of it might be slightly frozen in the winter time—that is the exception—your problem is to raise the milk from such temperature levels up to 144 degrees Fahrenheit if you want to use the holding process.

The Court: I see that the court will have to be corrected. I pronounced 145 a moment ago. I will accept the amendment.

A. 143 is the minimum for 30-minute holding and most plants try very carefully not to exceed 145; otherwise you have damage to the creaming property, and the result is that most plants strive for an intermediate figure of 144 so as to allow a leeway, a margin of safety with respect to the 143 figure and a margin of safety with respect to the 145 figure. Your problem is to get the milk up to that temperature, and in order to get the heat transferred from the heat medium to the milk you must inevitably have a

temperature radiant to make the heat flow in the desired direction. If you use too high a temperature radiant, having in mind you want to go to 144, you might use a heating medium up as high as 170 or 180. You would get quick heating, everything else being equal, but that would mean that the films of milk immediately adjacent to the heating surface would momentarily be exposed to higher temperatures and you would have detrimental effects, and so, in the process of pasteurization your engineering problem is to design the equipment in such a manner that you get the heating done with reasonable speed but with as gentle a temperature radiant as possible; and the central principle around which the design finally is built is that you get best heat transfer when you have efficient renewal of the surface film that is in contact on the opposite sides [fol. 72] of the heating walls through which the heat must pass. That means that you must have efficient renewal of the surface film of heating water on the one side and you must have efficient renewal of the milk which is being heated on the other side.

Mr. Wake:

Q. And how do you accomplish that renewal of the film of the milk?

A. That is done by imparting agitation. The manner in which that agitation is imparted differs appreciably with the design of the equipment. In an ordinary vat, that would be by agitation of the milk on the inside of the vat and flow of the heating medium over the outside heating wall might be by pump action, pumping the heated water through a channel so it must follow a definite path and flow with a high velocity; or it might be by virtue of a heat exchanger where the water is pumped through a channel on one side of a sheet of metal and the milk flows through channels on the other side of that sheet metal, both flowing at relatively high velocity and usually the counter-current flow with the heating medium flowing in one direction and the liquid to be heated flowing in the opposite direction. There the flow is produced by pump action. But the pumping or agitation is an important part of pasteurization to get the heat transfer with as gentle a temperature radiant as possible.

Q. Would one type of agitation be a sort of a paddle or device similar to it?

A. Yes.

Q. Rotating within the milk?

A. Yes, that would be in a vat pasteurizer.

Q. And there would be other types of physical agitation of the milk?

A. Revolving paddles, revolving propellers, a coil which is like a cork-screw, the coil revolving and that revolving coil in the meantime conducting the heating water through that coil, so that you agitate the milk, and that coil action serves to pump the heating water through the coil. That is another type of agitation.

Q. And if you could give a classification to any of those steps, would agitation be a physical or a chemical proposition?

A. That would be physical.

Q. Would the transfer of temperature or interchange of temperature be a chemical or physical proposition?

[fol. 73] A. The transfer of the heat—the heating process would be physical.

Q. And if someone were to apply the term "mechanical", would that relate to a physical operation as well? What is your conception of mechanical so far as it might or might not enter into the strictly pasteurizing step?

A. Well, ordinarily, when you speak of mechanical you think of moving parts. I would say the agitating incidental to heating and cooling would certainly be mechanical.

Q. Your conception of the method of putting the agitators in motion—how is that usually accomplished; what type of power?

A. In practically all cases in modern equipment now by individual motor drive, each machine being equipped with its individual motor.

Q. Electrical drive?

A. Yes.

Q. Is the machinery or equipment incident to the pasteurization vat itself a type which is carefully designed or is it something that, in practice, anyone constructs or can construct right at a dairy?

A. The motor or the whole—

Q. The whole unit; the vat, including the agitator.

A. The vats and equipment that you have in use is built by firms that specialize in building that type of equipment, and there are certain requirements which would not at once

be obvious to a novice in that field, and so it is a case of specialized construction and calling for specialized experience and skill.

Q. Now, in the steps of pasteurization, Doctor, from your knowledge could you state whether or not there are any chemical changes induced in the milk?

A. There are some chemical changes. Some are definitely desired. In a sense, of course, the destruction of the bacterial cells which we get in pasteurization is chemical because by virtue of heat we produce chemical changes within the living structures of the cells and that is killed. But, aside from that, we have chemical change in the sense that we destroy and destroy certain enzymes in milk, and we do that quite deliberately, such enzymes as lipase, which milk always naturally contains, and that allowed to act in raw milk splits the fat, gives us free fatty acids, and butter fat being noteworthy for its high butyric acid content, that butyric acid gives you a very definite odor which [fol. 74] we know in the dairy industry as a rancid odor or flavor. That is one of the problems in distributing raw milk. It is also one of the problems, even more so, in distributing homogenized milk. There, by virtue of having broken the fat up to such fine globule sizes, you would give the lipase an admirable chance to work on the fat, and unless the pasteurization fully destroys the lipase you would have an off flavor developing in the homogenized milk. And so, in the pasteurization we undertake to destroy the lipase. Also, because of tests now applied, we want to be sure that we destroy an enzyme known as phosphatase. Phosphatase, as far as we know, would have no beneficial or adverse effect in the raw milk, but it is always present in raw milk, and in recent years the phosphatase test has come into very extensive use as a means of checking up on the adequacy of pasteurization, so that milk which is sold as pasteurized milk is actually adequately pasteurized, the test detecting under heating by as little as one degree or admixture of raw milk by as little as one-tenth of a percent raw milk.

Q. That test is a chemical analysis, is it?

A. It is a test based finally on a color reaction, and it is very sensitive.

Q. Now, you have mentioned the induced changes to accomplish overcoming undesirable odors, and you men-

tioned, I believe, the objective of ridding the milk of undesirable material from a pathogenic viewpoint. Is there any other aspect which is one of the objectives?

A. The primary one, of course, is to make the milk safe from the standpoint of pathogenic organisms, but the secondary is to destroy a very large percentage of all bacteria which ordinarily and usually are just harmless, but, in any event, to destroy a high percentage of all of the bacteria that are there in the interest of enhancing the keeping quality of the product.

Q. The preservation?

A. That is right.

Q. Do you associate flavor with the odor, or is there any independency?

A. They are technically — flavor you would perceive by your taste buds and odor by your olfactory nerves, so you could make a distinction, although the distinction is hard to maintain. We smell things that we sometimes think we taste.

[fol. 75] Q. Well, in connection with the objectives of pasteurization is that a separate objective or is that related to the riddance of offensive odors?

A. Well, I mentioned the destruction of lipase to avoid certain deterioration as far as flavor and odor is concerned; but in pasteurization there is also some, especially if an open system is used, such as vat pasteurization followed by cooling by having the milk cascade down over a cold surface and the film of milk exposed to the air in the meantime—in such systems there is, of course, an opportunity for certain volatile substances from the milk to escape, so that if the milk had a cowy or barny odor pasteurization in such an open system would tend to reduce that.

Q. Would that be a form of aeration?

A. Yes.

Q. Without attempting to characterize any dairy which is here before the court, what is the usual turnover of milk just as you know it in the industry after it reaches the cooling room? In other words, what I am trying to get at, is there any known characteristic of the industry as to the sale of the product once it reaches the cooling?

A. Well, the aim is, and certainly the very typical operation is, to have the milk which was received, let's say, during the forenoon of today to be pasteurized and bottled

and cooled and put in the cold room during the latter part of today, going out on the delivery trucks tomorrow morning, and only enough put up and bottled to take care of tomorrow morning or tomorrow's deliveries. In many cases the practice is not to send out hold-over milk at all, just to bottle and prepare for the day-to-day operation.

Q. Is there a desired reason for holding it any length of time?

A. Not in the case of milk. Your aim there is to process it, bottle it and cool it and get it into the consumer's hands as promptly as possible.

Q. What can you say, if anything, about the formation of cream lines or the handling of milk in respect thereof?

A. You want, of course, your product to show up favorably in the consumer's estimation from the standpoint of the amount of cream he sees in the bottle, and that cream layer shows up, almost without exception, within two hours after the milk is bottled, and actually shows up a little more distinctly with age, but the actual volume of the cream layer may actually shrink as the creaming progresses.

[fol. 76] Q. Now, homogenization—what type of a process is that?

A. That is pumping milk under—milk or other fluid under high pressure, usually around 2500 to 3,000 pounds per square inch, through a controllable orifice or crevice, and the high velocity flow of the liquid through such a limited crevice exerts a shearing effect on the liquid and has the effect of breaking up the fat globules, which is the desired result.

Q. Would you characterize that as in any respects mechanical or in any respects physical?

A. It is definitely mechanical.

The Court: We will take our morning recess and resume at ten minutes after eleven.

(Whereupon a recess was taken.)

After Recess.

HUGO H. SOMMER resumed the stand, was examined and testified further as follows:

Direct examination (continued).

By Mr. Wake:

Q. Doctor, what is the desired temperature for holding or storage rooms or the aim?

A. The common aim is to have the storage room at 38 to 40 degrees Fahrenheit.

Q. Directly after the cooling incident to the pasteurization, would the continued holding of milk at a temperature of about 38 to 40 degrees for a reasonable period, let us say just to test it, 12 hours, have a theoretical further value of destroying additional bacteria if any had escaped up to that time?

A. No.

Q. Would there be a tendency to kill any life during that period?

A. Merely by holding it 12 hours at 38 to 40 subsequent to pasteurization?

Q. Yes.

A. That would be very questionable.

Q. There is a theory entertained that there may be some value of that description?

A. I think I mentioned the theory in connection with [fol. 77] suddenness of cooling, real quick cooling from a high temperature to a low temperature, might have some beneficial effect, but even that is questionable.

Mr. Wake: You may cross-examine. I might say to the court at this time that I am not disposed to enter any technical objection to material that might not be strictly within the realm of cross-examination, it being understood, however, that I wouldn't wish to have the witness other than the government's witness for that purpose, my indication of the statement being that we both felt that we would like to conserve the Doctor's time to the utmost, and that I am willing that counsel can enter new subjects without my objection, it being understood, however, that they make the witness their witness for that purpose, that being wholly a determination for the court to the extent they do it.

The Court: All right. Go ahead.

Mr. Wake: Is that satisfactory?

Mr. Miller: That is satisfactory.

Cross-examination.

By Mr. Miller.

Q. Dr. Sommer, when you made your estimate in response to the question as to the investment in pasteurizing

equipment that would be necessary as against a milk distributing plant that did not pasteurize and you answered that it would cost about 15 to 20 per cent for pasteurizing equipment, that was not a comparison of all the equipment that a dairy might have, including the delivery equipment, was it?

A. No, I tried to enumerate the equipment I had in mind, starting with the intake equipment, weighing can, can washer, a pump, storage tank, filter, then pasteurizer or not having a pasteurizer, a cooler; if you have a pasteurizer your cooler would have to be of larger capacity because you have more of a cooling job; bottling, and then, finally, the cold room. Enumerating that equipment, just as a rough guess I would say from 15 to 20 per cent.

Q. I see. Well, you can't make any estimate as to the value of the equipment as compared to the entire equipment of a dairy engaged in purchasing and delivering milk?

A. Well, if you include in addition now the delivery trucks and, inevitably, you must have a plant, then, of course, the percentage goes way down—the percentage that the pasteurizing equipment represents of the total investment.

[fol. 78] Q. Then, it would be a fraction of that 15 to 20 per cent?

A. That is right.

Q. Doctor, I show you this copy of Exhibit 1. Will you state just what you mean by "pasteurizing equipment", where it begins and where it ends?

A. Well, your pasteurizing would begin with, say, the milk pump, following the holding tank and filter; let's say that milk pump through the pasteurizer; then, possibly, a milk pump or gravity flow, depending upon the ground level, the relative elevation of equipment, and ending with milk cooling coils just ahead of the bottle filler—that part of the equipment—somewhere along the line a pump for the milk, the pasteurizer which involves agitation for the milk and usually pumping of the heating medium, water usually, hot water, and then your cooler which—incidentally, that cooler is very commonly in two sections, the upper part being quite commonly connected with water supply to do part of the cooling, and the lower part being connected with refrigerated cooling medium, which might be

brine or might be sweet water, so-called sweet water cooling, where the water is refrigerated and pumped through.

Q. From your earlier statement, Doctor, I take it you mean that the cooling coils are used in pasteurization only to the extent that they may be larger than those that would not be in pasteurization but would be used to cool milk ordinarily?

A. You would use cooling in both raw and pasteurized milk, but you have more of a cooling job, obviously, where you have heated the milk to a higher temperature.

The Court:

Q. I notice the line going over to "Cream Pasteurizing Vat", an agitator. I suppose that is part of the pasteurizing equipment, isn't it?

A. Whatever I said there was talking about milk. If you contrast distributing raw cream versus pasteurized cream, that same thing would hold true in that line.

Q. Counsel showed you Exhibit 1 and that appears to be on Exhibit 1, so I wanted to call it to your attention.

A. Yes.

[fol. 79] Mr. Miller:

Q. Doctor, in the case of raw milk would it not be necessary to cool that as rapidly as possible just as well as in the case of pasteurized milk?

A. Your aim in any milk plant operation is to get that milk down from the receiving temperature, which is commonly around 60 to in the neighborhood of 40 degrees Fahrenheit, as promptly as possible. Your check further bacterial growth either by prompt heating and pasteurizing and cooling, or if you mean to hold it as raw milk then you apply your cooling just as promptly as possible after you receive the milk.

Q. Isn't it a fact, Doctor, that there are more raw milk plants or raw milk distributors than there are pasteurizer distributors in the United States?

A. Yes. I think the survey made by the U. S. Hygienic Laboratory—I think that was the agency that made the survey in 1936—showed in point of plant numbers more raw milk distributing plants than pasteurizing plants.

The Court:

Q. Does that mean there was more raw milk in total volume was put out to the public than pasteurized?

A. No. I think the same survey showed that in municipalities of a thousand or above in population, basing the conclusion on that population, 74.7 per cent of the milk was distributed and consumed as pasteurized milk.

Mr. Miller:

Q. Dr. Sommer, was this the report that you were referring to?

A. Yes.

Q. To your knowledge, is there any later report made by any responsible public agency or any other agency with respect to the extent of pasteurizing of milk or the extent to which there are distributors of milk who distribute unpasteurized milk as against distributors who distribute pasteurized milk?

A. There is no later report as far as I was able to determine; in connection with getting out the 1946 edition of the text book I made an effort and had some correspondence with the U. S. Department of Agriculture and failed to get any further information of that nature.

[fol. 80] Mr. Miller: Thank you.

Mr. Wake: May I inquire of counsel what the nature of the publication is? Identify it in the record.

Mr. Miller: I haven't offered this at this time, but if counsel wishes to look at it—

Mr. Wake: I would like to know the nature of it, the title of it. Do you want to describe it?

Mr. Miller: For the purpose of the record this is Public Health Bulletin No. 245, Milk Supplies and Their Control in American Urban Communities of over a Thousand Population in 1936, and it is an official publication of the United States Treasury Department Public Health Service, Washington, D. C., published—or printed in the year 1939. (Defendant's Exhibit A.)

The Court: Very well. That is sufficient identification.

Mr. Miller:

Q. Dr. Sommer, the pasteurization method isn't the only method of killing germs which may exist in milk; isn't that true? It isn't the only possible method?

A. Well, you, of course, can go beyond that and actually elevate the sterilizing temperature and sterilize.

Q. You mean boil, the same thing?

A. Well, as in the separated milk manufacture where you use temperatures of around 240 and maintain for 15 to 18 minutes, then you undertake to destroy the bacterial spores as well as any vegetative cells and achieve actual sterility. Aside from that, it is of theoretical interest if you can—

The Court: We are not interested in any theoretical interest. We want to know what they are doing.

A. Practically, I would say no, then, but your question, is there any other method of destroying bacteria—

Mr. Miller:

Q. Any other possible method.

The Court: If you are talking about possible — I don't want you to be delving into theory. We are involved in a practical situation here. Let's confine ourselves to that. I am short on time here and I don't want you to spend more time than necessary trying this case.

Mr. Miller:

Q. Well, isn't it a fact, Doctor, that in many farm homes throughout the United States and government homes they [fol. 81] pursue somewhat the same method of killing germs, merely heating the milk at home?

A. Yes, the heating of milk on the farms is a fairly common practice.

Q. You don't contend that home milk has harmful germs in it, do you?

A. No.

Q. These chemical changes that were referred to—are they considered to be incidental to the pasteurization or are they the desired end for which pasteurization is entered into?

A. Well, they are a part of it. I don't know that you can—I would say that the main purpose is the destruction of any pathogenic organisms that may happen to be present. The secondary purpose is to lower the bacterial numbers and enhance the keeping quality thereby; also to destroy certain enzymes. Now, those are secondary. If it

weren't for the primary objective it is doubtful whether the practice would have become anywhere near as widespread and well established as it now is:

Q. What is certified milk, Dr. Sommer?

A. It is milk produced under the supervision of a medical milk commission and in conformity with the detailed requirements that have been set up for certified milk. That gets into numerous details which are not easily recited; but some of the outstanding details are that the health of the herd and of the attendants is under the supervision of veterinarian and physician, respectively, and the bacterial count of the milk must not exceed 10,000 per cubic centimeter.

Q. When you said that the milk is produced under the supervision of this society you don't mean that they actually have a representative watching whatever happens to the milk, do you?

A. No.

Q. You mean, merely, that they lay down certain standards?

A. That is right. They lay down the standards and insist that a medical milk commission must be organized and a veterinarian and a physician designated to do the necessary inspecting at periodic intervals, as well as all of the other details of production code, if you can call it that.

Q. Is there any processing of the milk by the dairies and distributors after it comes to them from the cows?

[fol. 82] A. In the case of certified milk?

Q. That is right.

A. There may be. For years certified milk was sold as raw milk and was understood to be raw milk, but the pasteurization of certified milk is now permissive; so, certified milk may or may not be pasteurized.

Q. Where it is not pasteurized there is no processing of any sort; is that your answer?

A. Merely the cooling and bottling operation.

Q. In your opinion, Dr. Sommer, is certified milk a wholesome food product fit to sell for consumption?

A. Yes, definitely.

Q. Isn't it true that any milk from a healthy cow is generally regarded as a wholesome and beneficial food fit for consumption—for sale with or without pasteurization?

A. Yes.

Q. Is that in your opinion true, as well?

A. That is right.

Q. In the production and distribution of the milk from the cow to the large city consumer, or even in a small town, what would you say is the most common source of a disease-producing bacteria which may be found in milk, that is, what part of whatever happens to the milk from the time it leaves the cow until the time it is distributed?

A. The most common—that would imply a survey of statistics and I have in mind in that connection the compilation of epidemics that have been traced to raw milk, and typhoid, paratyphoid and dysentery loom up very important in that. So, trying to answer the question as of relative importance, you would have to go to such data as that, and I would say then you would have to look for sources of contamination which would contribute typhoid and paratyphoid organisms, and that would not be the cow itself but might be a typhoid carrier acting as a milk handler or the water supply that is used in connection with the milk utensils, or possibly flies having access to contaminated sources and then again having access to the raw milk.

Q. Well, to put it simply, Doctor, would you say that the greatest source of possible contamination, or the greater, occurs in the distribution, or would you say that it occurs in the source of the milk from the cow itself? Would you like to have that question reread?

[fol. 83] A. Yes.

(Whereupon the reporter read the pending question.)

A. Well, that leaves some things out of the scheme of things. I would like to contrast assembling from the cow to the plant and if you start distribution from that point on, then you have the whole scheme of things included.

Q. I see.

A. But you have points of contamination—the cow itself may be the source of contamination, with tubercle bacilli or the organisms of Bang's disease which would cause undulant fever in humans, or it might be the organism that causes septic sore throat becoming established in the cow's udder, or it might be the organism that causes scarlet fever having become established as an udder infection and richly seeding the milk. So, starting with the cow you have typically bovine diseases, you have typically human diseases that can become established in the cow's udder, and then along the line you have the attendants. You may have a

typhoid carrier or they may contaminate the milk in other respects. So that, I would say that as far as possible contamination is concerned there would be the greatest chance from the time of milking to the point where it is received at the assembling plant. That would include the greatest hazard as far as contamination is concerned.

The Court:

Q. Isn't it true, Doctor, that at least it has been built up, whether there is merit to it or not, a feeling with the public that they are reluctant to buy milk unless it is pasteurized?

A. Yes.

Q. I am speaking from my own experience. I don't think we would permit any milk around our house that wasn't pasteurized.

A. That is true. It has been built up through the teaching of various public agencies, including the U. S. Public Health Service has been quite active to that point, and in my opinion it is a very sound teaching.

Mr. Miller:

Q. Do you know if there are any—strike that.

(Question waived.)

Q. Can you tell us what is the term or term that is generally used in the dairy trade in your experience to describe one who is engaged in the business of buying, bottling and [fol. 84] selling milk as distinguished from those who are engaged in other branches of the milk business?

Mr. Wake: That is objected to on the ground that the characterization wouldn't answer the ultimate.

The Court: Objection sustained.

Mr. Miller: Your honor, may I say a word on that?

The Court: Yes.

Mr. Miller: Your honor, it appears to me that characterization of people engaged in the business might be valuable as to what they consider the most important aspect of their business.

The Court: Objection sustained.

Mr. Miller: Your honor, may I say for the record what this witness would testify to?

The Court: You may make an offer of proof.

Mr. Miller: I make an offer of proof that generally the term used by those who are engaged in the business in the offer of supplying milk is that people who are engaged in the distribution of milk are entitled—ordinarily called dealers and distributors, and that is irrespective of whether they pasteurize milk or not, and that is the commonly used term to describe them; and along the same line, which, I suppose, the same objection would be to that, the association which the people who are engaged in this business have is called the Association of Milk Dealers, and, similarly, the publication which they have is called "The Milk Dealer".

The Court: It will be received only for the purpose of counsel making the offer of proof.

Mr. Miller:

Q. Doctor, do you have any knowledge of how long the business of milk distribution has been in existence as a distinct form of business or activity distinct from farming?

A. Well, historically, the records are not very complete, but you find references to milk business along about 1850.

Q. Have you any knowledge how long pasteurizing has been commonly engaged in by milk distributors?

Mr. Wake: That is objected to on the ground that it is too indefinite, especially in view of the other suggestion that there were a considerable number of raw milk plants still in existence.

The Court: He may answer that. Objection overruled. [fol. 85] A. Pasteurization, of course, based on Pasteur's study of 1864, was slow in coming into use as far as the milk industry is concerned, but about 1890 to 1900 was the period when a great deal of attention was focused on the need for pasteurizing milk by work done in connection with the feeding of infants and children, and 1908 to 1910, along in there, the pasteurization was beginning to take hold pretty well in the dairy industry. However, as early as 1897 it was started on a commercial scale in Cincinnati, and I think 1898 in New York, and 1899 or thereabouts in Philadelphia; in Milwaukee, 1903; Chicago, 1908. Those are some of the dates that mark the introduction of pasteurization of milk on a commercial scale.

Mr. Miller:

Q. Can you tell us about how recently pasteurization of milk has become common in Milwaukee?

A. I have made no study of it, but I would say that by 1910 to 1915 it was well established and quite general.

Q. To your knowledge are there any dairies in Wisconsin engaged in pasteurization or bottling and selling as a business separate and distinct from the buying and selling and distributing of milk?

A. You mean a dairy that would buy the milk and bottle it and then sell it wholesale?

Q. No, I don't mean that. Do you know—I mean dairies that are engaged in pasteurization and bottling for others as a regular business.

A. No, I don't know of any. Certainly not the rule. If such exist it would be the exception, I would say.

Q. Have you ever heard of any such dairy in the United States, generally?

A. There may be some. From correspondence I have had and inquiries and conversations, I have heard of instances where somebody wanting to distribute pasteurized milk in a suburb undertakes to buy it in wholesale from somebody else and undertakes the retail selling and peddling of the milk and making collections on his own responsibility.

Q. I see. But the company that pasteurizes and bottles the milk would do that incidental to its regular business?

A. That would be a side issue, I would say.

Q. Do you know if there are in Wisconsin to any substantial extent dairies engaged in purchasing of milk and [fol. 86] pasteurization and bottling, that is, purchases as well as bottles, and selling to other dairies for distribution?

A. I don't know of any.

Q. Is it customary for the public authorities in various States of the United States to examine the milk-producing cows for various diseases, some of which you have mentioned before?

A. With respect to some especially; examination of cows for tuberculosis by the tuberculin test is well nigh universal practice, if not actually required everywhere.

The Court:

Q. How about Bang's disease?

A. Bang's disease is also now—testing for Bang's disease is now also being extensively required, although it is not a hundred per cent as yet. There are general provisions specifying that the milk must be from healthy cows, and

udders must be free from infection, and so on, which, however, are difficult to administer. After all, it depends pretty much upon the individual farmer and herdsman to be high minded about following such directives.

Mr. Miller:

Q. Well, isn't it a fact that practically every State in the United States cows are examined?

A. For tuberculosis and, to a considerable extent, for Bang's disease.

Q. Do you know of any dairies anywhere in the United States that produce their own electric power?

A. I don't know of any.

Q. Would you know if there were some?

A. Not necessarily, although that would be rather unique and it might well appear in trade papers, and I haven't seen any such account.

Q. How about in the State of Wisconsin? Can you be fairly certain that there are or not any dairies that produce their own electric power?

A. Of course, dairy is a broad term. I know evaporated milk plants generate their power, to a considerable extent, and it is conceivable there might be a plant like that that indulges in some side activity, and so on. It is pretty difficult to answer. As a general thing they do not generate their own power.

[fol. 87] Q. That is, the distributors?

A. That is right.

Mr. Miller: That is all.

Mr. Wake: Just one or two questions.

Redirect examination.

By Mr. Wake:

Q. This mention, Doctor, of attempting in the farm to control milk by heat, from your knowledge would you say that was, broadly, an effective method?

A. Well, it is effective for making milk safe. It is not effective if you consider it from a standpoint of the marketability of that milk if you were in competition with milk distributors, because you have the scalded flavor and impaired creaming.

Q. Is scalded sometimes referred to as a caramelizing action?

A. Well, caramelizing action you would think a little more severe. A cooked, scalded flavor would be more truly descriptive.

Q. And does it strike you that there is any effective comparison between a modern pasteurization plant and an attempt in the average farm home to, by use of heat, render milk safe?

A. The two are not closely comparable at all because in describing pasteurization I am emphasized the importance of employing a very gentle temperature radiant, and that is very difficult on a small scale on a kitchen stove to duplicate.

Q. Now, from your knowledge of the industry, is there any relation in the size, the average size of plants in the United States, these bulk plants you referred to under the census where only raw milk is handled and bottled or the plants where pasteurization is a distinct business is undertaken?

A. Well, the raw milk distributors are, for the most part, limited to the milk produced by an individual farm; they are limited as to size, and when they become larger there is quite a tendency among public health officials to discourage that type of operation because by the time you assemble milk from several farms and have a large number of attendants and several different water supplies become involved, you multiply the possible sources of contamination. Not only that, but you multiply the number of consumers that [fol. 88] you may be subjecting to that. So, as you pool more and more milk the hazard becomes more and more startling, and raw milk operations of any scope are discouraged.

Q. Once pasteurization is introduced into a plant does that functionalize the plant as to how the rest of the operations fill in, or do the other parts of the plant go on in their independent ways?

A. Along with pasteurization immediately many other operations become possible, such as turning out chocolate milk drinks and cultured buttermilk and that type of operation which requires pasteurization.

Q. Now, does the dairy plant strike you as having the type of electric load, from your knowledge of it, whether it is a steady, even load, or whether it has extreme ups and

downs, which would either encourage such a plant or discourage it from having its own source of electrical energy?

Mr. Miller: Your honor, I object to that. The witness hasn't been qualified on electrical energy to any extent that I know of.

The Court: Objection overruled. He may answer, if you know.

A. In the average dairy the demand for power varies considerably; especially when they cut in a machine like the homogenizer where they may have a 20 or as high as a 60 horse power motor running the machine, depending upon capacity, you have severe ups and downs in the demand.

Mr. Wake:

Q. And evaporated milk plants, through your knowledge of those, are they of the type which have fairly large production of steam anyway and the process and development of electrical energy may, in part, be incident to the development of steam?

A. That is right. They make use of the fact that they want low pressure steam for many purposes and use the exhaust steam from their generator to do the heating.

Mr. Wake: That is all, Doctor.

Mr. Miller: May I ask one question?

The Court: Yes.

[fol. 89] ~~Re-cross~~ examination.

By Mr. Miller:

Q. Dr. Sommer, would you say that the difference between the killing of germs in a farm by a housewife with a smaller degree of efficiency differs greatly from that which is done by a dairy in the degree of efficiency or operation, or would you say it differs in any other respects?

The Court: He told how it differed and the difficulty in keeping an accurate temperature, for instance, 144; you can't do that on a kitchen stove, as you and I well know. If there is anything further you want to inquire as to that, all right.

Q. Anything further you want to say about that, Doctor?

A. Well, it is difficult to do the job with any precision.

The principle, of course, is destroying bacteria by heat, but you inevitably go much higher than you need by heating it on the kitchen stove. - Either the entire mass of milk is heated hotter or locally where the film of milk is in contact with the hot bottom of the dish; you have no agitation, and you get a cooked, scorched flavor—a cooked, scalded flavor and you impair the creaming property of the milk.

Mr. Miller:

Q. I take it by the home heating method you may actually be killing more bacteria?

A. That is right.

Q. Than you would in the pasteurization?

A. That is right.

Mr. Miller: That is all.

Mr. Wake: That is all.

(Witness excused.)

The Court: Next witness.

Mr. Wake: The plaintiff rests, your honor.

The Court: We will proceed until about twelve-fifteen, so go ahead.

[fol. 90] Defendant's Evidence

Mr. Miller: Professor Mortenson, will you take the stand?

WILLIAM P. MORTENSON, called as a witness herein, on behalf of the defendant, being first duly sworn, was examined and testified as follows:

Direct examination.

By Mr. Miller:

Q. Will you state your name, please?

A. William P. Mortenson.

Q. Will you state your occupation, Dr. Mortenson?

A. Associate Professor of Agricultural Economics at the University of Wisconsin.

Q. Do you specialize in any field, Doctor?

A. Practically all of the research which involves a considerable portion of my time has been in dairy marketing with special emphasis on fluid-milk marketing.

Q. How long have you been engaged in this research?

A. Made the first study about 1931 in Milwaukee. It was published in '31. The study was made in '29 and '30.

Q. And have you been engaged in similar activities since that time?

A. Yes, a great portion of the time.

Q. What education have you had, Doctor?

A. Final, Ph.D. in agricultural and general economics from the University of Minnesota.

Q. Have you published any books?

A. Yes; one book under the title "Milk Distribution as a Public Utility", published by the University of Chicago Press, 1940.

Q. Do you know whether or not there are any dairies in Wisconsin engaged in pasteurization or in pasteurization and bottling as a business separate and distinct from buying and selling and distributing of milk?

Mr. Wake: May I have that question read?

(Whereupon the reporter read the pending question.)

A. I know of none.

[fol. 91] Mr. Miller:

Q. Do you know of anywhere in the United States?

A. I do not have specific knowledge. I understand that there are some so-called small peddlers in cities, such as perhaps New York, but I believe, although I can't give positive information—I believe they buy their milk from a distributor who pasteurizes it.

Q. Is this distributor engaged in pasteurization for these peddlers as the main part of his business or is that just incidental to his business?

A. Purely incidental.

Q. Do you have any knowledge of the distance from which milk is brought by milk dealers in Milwaukee?

A. The bulk of the milk for Milwaukee is purchased within 30 to 35 miles. The limit—the greatest distance is about 45 to 50.

Q. According to the stipulation which has been entered into here by counsel the cost of the plant operators in connection with the distribution of milk by the dairies involved in pasteurization in this case is about one cent per quart.

Do you have any opinion as to what proportion of that cost of plant operations may be attributed to pasteurization?

A. I would say the variation would be considerable from plant to plant. It would be only in rare cases, in my judgment, that it would be more than 10 per cent, and I think in most cases it would be distinctly below 10 per cent.

Q. Is that 10 per cent of one cent?

A. That would be—in that case it would be one-tenth of one cent per quart or less, on the basis of a cent per quart of plant operation.

Q. Can you explain for the benefit of the court what you mean by "pasteurization"?

A. As I understand, pasteurization is the heating of milk—there are several processes, as Professor Sommer explained—the common process, as I understand, as used in the plants here in Wisconsin, is the heating of milk to 143 to 145 degrees; holding it there for 30 minutes. That is all that would be construed to be strictly pasteurization in a plant operation.

Mr. Wake: Well, that is—

A. In a plant operation—

The Court: Wait just a minute.

[fol. 92] Mr. Wake: That is objected to upon the ground that it doesn't appear that the witness is technically qualified to describe pasteurization as such, and I believe in certain aspects it is in contradiction, at least in part, with Dr. Sommer's testimony.

A. I was going to make one more statement, if I might.

The Court: Go ahead and make your statement.

A. The other part which would be a practical part in a plant operation would be the cooling of the milk down to the desired temperature.

Mr. Wake: I withdraw my objection.

Mr. Miller:

Q. With your estimate as to the amount of that one cent that is attributable to pasteurization, did that include both the heating and the cooling?

A. I would say that would include both heating and cooling, because the only difference in cooling would be to

change the milk from the temperature of 143, or whatever the temperature is after it leaves the vat, to the temperature at which it reached the vat or the intake.

Q. And in your estimate did that take into account the electricity which might be involved in this pasteurization process?

A. Yes. I would include in that the electricity, the cost of water, and power. Now, the basis for arriving at that is the computation which I have made in a considerable number of plants of the cost of these items, water, electricity and power, and then determine the proportion of that which goes to the pasteurizer. It would take a time study to get the exact cost—time study and temperature study and everything to get the exact cost. I know of no plant that separates pasteurization cost, as such, but it can be calculated quite accurately by indirect methods which I have suggested.

Q. In your estimate, then, did you take in all the costs that you considered in pasteurization or only those that you have just stated?

A. All the costs, including labor, would be in that one-tenth.

Q. To your knowledge do any of the milk distributors or dealers in the State of Wisconsin produce their own electricity?

A. I know of none. You are speaking of milk distributors?

[fol. 93] Q. That is right.

A. I know of none.

Q. How about in the United States generally?

A. I am sorry, I don't happen to know. I just know of none.

Q. In your studies in connection with the operation of milk dealers and milk distributing businesses have you had occasion to observe that any of these businesses have engaged in the distribution of food products which are not related to milk?

A. Yes. It, in fact, is quite a common practice to engage in the distribution of some other products.

Q. Can you enumerate some of the products?

A. A good many engage in the distribution of eggs, fruit juices quite commonly, such as grape juice, orange juice, several other fruit drinks.

Q. Well, how do they obtain these food products which they distribute?

A. They purchase them from manufacturers or vendors of the fruit juices.

Q. Do you know of any other food products which are treated for the purpose of cleaning them or removing possible detrimental bacteria similar to milk in the sense that such cleaning is engaged in by distributors?

A. In the case of certain vegetables and fruits that would be quite common. In the case of peaches that are sprayed to protect against insects, that spray may be dangerous to health, so they are either brushed or washed. Plums, apples—almost universally washed in order to remove the spray that might endanger health.

Q. Who does this washing and cleaning?

A. Well, the handler or the distributor of the fruit.

Mr. Miller: That is all. You may cross-examine.

The Court: Cross-examine. We will finish with this witness before recess so he can leave if he wants to:

Cross-examination.

By Mr. Wake:

Q. In the distribution of these fruit juices have you personally looked into the method in which the dairies in Milwaukee County are handling that situation?

A. Not so much in Milwaukee. I have observed it closer in other markets and those same companies who operate in the other markets also operate here. I imagine it would be similar.

[fol. 94] Q. Is this a fact from your understanding; that they acquire—the dairy acquires a fruit concentrate and then mixes it to proportion in its own plant and bottles it?

A. It may be done. The plants that I happen to know have it sent to them in the form in which they sell it.

Q. But you haven't inquired specifically in the Milwaukee area about that?

A. I have not.

Q. In your statement that generally the industry, so far as you personally knew, the plants anyway, didn't separately calculate the costs of pasteurization, that indicates that from an accounting standpoint most of them—most of

the pasteurizing plants do not functionalize their accounting in the pasteurization line; is that right?

A. That would, I think, be true. The common accounting makes a charge for particular items—water, electricity, so on. I should add, however, that in discussing the functionalizing of the accounting which you mention, if a company did that I think they would find that they would—if they would take an item as small as pasteurization in total cost it would be virtually microscopic; it would not be worth while to keep accounts in that minutia.

Q. It is also true, isn't it, that the plants are so organized and so run in conjunction with the pasteurizing equipment that it is difficult to allocate some overheads of time—difficult to allocate some overheads of the method in which milk passes from the receiving room into the bottle?

A. That would be true. The only way to arrive at that, as I tried to mention a moment ago, would be through time studies; how much was certain labor, how much time did they devote to this particular process, how much water was used in heating the milk for pasteurization, and so on.

Q. Did you apportion any administrative and general expense, as that classification is usually known, to your cost of pasteurizing in your estimate?

A. That would be included in that. The administrative expense is a very small proportion of the total overall expense.

Q. Have you got your work sheets showing the origin of one-tenth of a cent under the assumption that plant costs in general are on a basis of one cent?

A. I took it this way.

Q. No, just tell me, have you your work sheets on that?

A. I do not, no. The calculations that I made on that [fol. 95] would not lend themselves, I think, to specific statistical or accounting procedure.

Q. You don't know anywhere that those figures are separately published in any recognized publication, do you?

A. I have seen such a figure. It has—I think, however, that there might be considerable argument as to the validity of an accounting procedure that would attempt to allocate that specifically, because it would have to be more or less arbitrary.

Q. In your obtaining the figure which you have mentioned, what did you consider to be the cost of investment

or depreciation in the depreciation annual requirement on the investment?

A. Well, the estimate would be based on the relative cost of each piece of equipment and the life of that equipment.

Q. What was your starting base? What was your unit by which we can see the steps of your procedure?

A. Well, the costs of each piece of equipment, beginning with the intake, ending up with the cooler; the amount of labor—that would be the equipment cost; the amount of labor which would be allocated to the process of pasteurization.

Q. Professor, are you generalizing this or have you attempted to actually set some figures in their relationship one to the other?

A. I have attempted in going through the plant operations to estimate as best one could about what it would be. As I said before, it would be extremely difficult to set down statistical figures and say, "These are correct." If they were correct for one plant they may vary somewhat for another, first. Second, those figures would have to be arbitrary because unless you could determine the amount of water that was needed for that pasteurizer it would be difficult. You could estimate, however, and be very close, that the cost of operating a pasteurizer would be small as compared with all the other combined. It is one piece of equipment in a plant.

Q. Well, now, on the theory that pasteurization is one-tenth of a cent based, in turn, on an equivalent of one cent for overall plant operation, what is the cost of water which was assigned in that category?

A. What is the cost that would go to pasteurization?

Q. Yes.

{fol. 96] A. Oh, it would be—the water itself, not the heating of the water?

Q. Just the water. You indicated that water was one of the items.

A. The total cost of water in a plant is extremely small for all the water that is used.

The Court: If you are going into this detail it is apparent we can't get through with this witness. We will recess until one-thirty.

(Whereupon a recess was taken to 1:30 o'clock P. M. of the same day.)

Milwaukee, Wisconsin,
Wednesday, September 25, 1946,
1:30 o'clock P. M.

Court met pursuant to recess last above noted. All parties present.

WILLIAM P. MORTENSON resumed the stand, was examined and testified further as follows:

Cross-examination.

By Mr. Wake (Continued):

Q. Professor Mortenson, in the use of your percentage relationships—I am referring now to your overall plant costs as a hundred per cent and your relationship of 10 per cent thereof for pasteurization cost—did you include or exclude within that 10 per cent the element of plant lighting?

A. May I take about, maybe, four minutes to develop just how I arrived at that?

Q. Well, I would prefer to ask you some specific questions.

A. It would be extremely difficult without taking the steps which we used to tell you how we arrived at it. There are seven different items that I would like to enumerate to show just how we arrived at that one.

Q. You mean you merely wish to specify them at this time?

A. Just specify with one or two words.

Q. All right. No. Do you wish to enumerate or develop them?

[fol. 97] A. Enumerate and explain by two or three words what is involved in each one. It is not a development.

Q. All right. I have no objection.

A. In the pasteurization we have just one out of about seven major operations in the milk plant and these seven are the intake where the milk is dumped, the cans are washed and returned to the trucker, the milk is weighed, and the weighing can is washed at the end of the day—

Q. Just enumerate them. Intake is one.

A. Second is a boiler; third, a bottle washer; fourth, the bottle filler; fifth, the refrigerator, including all the cold

storage space; sixth, the platform where the milk is loaded onto the trucks; and then the pasteurizing process.

Q. The pasteurizer?

A. The pasteurizing process; that is the seventh.

Q. Now, on the platform, did you include that as plant cost or did you exclude it?

A. We included plant cost up to the point that the milk was turned over to the delivery man; moving it onto the platform is part of the plant cost. Moving it onto the truck is a delivery cost.

Q. Did you include anywhere within the pasteurization figure, in percentage, any portion of the lighting load of the entire plant?

A. Yes. We arrived at that by taking in our study three items; the lighting, which included all electricity, the power and the water. Those three items for 13 Wisconsin companies over an 11-year period added up to 3.3 per cent of the total operating cost. That includes delivery.

Q. What was the lighting?

A. We did not separate the three; light, power and water. Those are usually run in the accounting system as combined. Consequently, we didn't attempt to separate those three.

Q. Now, what method of apportionment did you use for deriving the total energy bill for electricity used for lighting loads in order to give a portion thereof to pasteurizing?

A. We did not attempt to separate the electricity which runs the motor from the water which heats the milk.

Q. No, I am referring to the lighting in the plant.

A. That was not listed separately.

Q. So, as far as you know your calculations give no effect to that?

A. It simply includes the light, which is all electricity, [fol. 98] the power and the water, as that one item which comprises 3.3 per cent of the total operating cost.

Q. I just want to reduce this to a common understanding.

A. Yes.

Q. The lighting in the plant was not separately studied in order to give a portion of its total cost assigned to the pasteurization as distinguished from any other activity in the plant?

A. That is correct; it was not separated.

Q. When you assigned the cost of water you had no dis-

inct formula for assigning any portion thereof to pasturizing as distinguished from the other parts of the plant operation, did you?

A. That is correct, we did not.

Q. Would the same general remark be true in respect of heating that was generally true in the items just mentioned?

A. Yes. No attempt was made to allocate the cost of heat or light to any one operation, such as pasteurization. I might develop that just one point farther, the reason being that all those three combined were such a small percentage of the total overall costs.

Q. Well, you are just drawing that as a conclusion. You have never seen figures on those percentagewise, have you?

A. Yes. I have the percentages of the three items; electric light, power and water.

Q. Stated another way, the combined cost of those is very small compared to overall plant costs?

A. That is right. It is 3.3 per cent.

Q. Now, it is true, isn't it, that a dairy which employs pasteurization as a process functionalizes its entire plant in respect of the milk passing through that pasteurizing equipment?

A. What I think happens in a plant operation, a certain number of men take care of the plant. The pasteurizer is more or less automatic. All it needs is an attendant. The milk is pumped in through pipes, pumped out through pipes, so that no specific person is assigned, ordinarily, to a pasteurizer the way it is to an intake. There the milk is dumped by one individual or two. Likewise, when the milk is moved from the refrigerator out onto the platform it is done by one [fol. 99] or two individuals. I know of no plant that has specific men assigned to the operation of the pasteurizer and his time devoted to that only.

Q. But the scheduling of related or dependent operations must be scheduled around the milk passing through the pasteurizer; isn't that right?

A. I would hardly think so. I would think that the scheduling would be more around the intake. That is the part of the plant that is always—ordinarily where your so-called bottleneck exists, and the plant operation—the plant equipment is more or less set to that, and taking the experience in a plant—

Q. May I interrupt there?

A. Yes.

Q. Where you use these holding tanks that character is equalized, the purpose of the holding tanks being to temporarily store the intake product until it can be scheduled through the pasteurizer?

A. That is correct, and if the intake can operate at a greater speed or dispatch, greater volume than ordinarily, a plant adds another holding tank, if it is necessary, to get the milk away from the receiving tank.

Q. And if the intake peaks up to the point where what is commonly known by some of us as a bottleneck, then it would call for installing additional pasteurizing equipment, wouldn't it?

A. I would think ordinarily not. I think it would call for the installing of more holding tanks and cooling the milk at the receiving before it moves into the first holding tank.

Mr. Wake: I think that is all, Professor.

Redirect examination.

By Mr. Miller:

Q. Professor Mortenson, what is the price of milk in Milwaukee at present?

A. I believe standard milk is 16 cents.

Q. Were you ever connected with any specific dairy?

A. Yes. I was connected with the Sheffield Farms Dairy at New York for a period of some sixteen months.

Q. During what period of time?

A. Beginning April, '43 to September, '45.

Q. What were your duties at that Sheffield Farm?

A. As economist for the company. The specific duties included going over the accounts, trying to determine where [fol. 100] costs might be saved, what particular plant operations may be over-expensive, and could be reduced, and the general work which related to economies of distribution of milk.

Q. And is your present estimate based, in part, upon the experience which you obtained in that employment?

A. The data which I have submitted so far do not include the information from the Sheffield Farms. That would be separate. The data which I have given come from the study which I made myself and which is published in the book, "Milk as a Public Utility".

Q. Is the data which you have submitted supported by similar data as the Sheffield Farm?

Mr. Wake: That is objected to unless that data is produced for separate examination.

The Court: I think the witness is well qualified. I don't think you need to go into it any further. You have got his opinion and idea.

Mr. Miller: That is all, your honor.

Mr. Wake: No further questions.

The Court: Next witness. That is all.

(Witness excused.)

Mr. Miller: If your honor please, I should like to offer at this time this booklet which was previously identified as Defendant's Exhibit A by Professor Sommer, Public Health Bulletin No. 245, published under the United States Treasury Department Public Health Service.

The Court: It will be received.

(Said document, marked "Defendant's Exhibit A", so offered, was thereupon received in evidence.)

Mr. Miller: I don't intend to read—

The Court: I suppose you gentlemen want to submit briefs. If you want to have any quotations you can say them for the brief. I will be trying a lot of cases between now and the time the briefs are in, and I will probably forget what you tell me.

Mr. Miller: Very well. Mr. Schiek.

[fol. 101] GEORGE SCHIEK, called as a witness herein, on behalf of the defendant, being first duly sworn, was examined and testified as follows:

Direct examination.

By Mr. Miller:

Q. Your name is?

A. George Schiek.

Q. Mr. Schiek, what is your occupation?

A. I am the secretary of the Layton Park Dairy Company.

Q. You are the secretary you say. Will you state what your functions are?

A. General plant operation, in charge of plant, butter making, and so on.

Q. Speaking a little louder, please.

A. In charge of plant and butter making and pasteurizing, and so on.

Q. Are you familiar with the entire operations of the Layton Park Dairy?

A. I am.

Q. How long have you been connected with the Layton Park Dairy?

A. Since 1914.

Q. Were you in the same business prior to that time?

A. I was, just running a single milk route prior to that time, about three years—two or three years—but the Layton Park Dairy was started in 1914; that is when the pasteurization ordinance took effect in the city of Milwaukee.

Q. Is the Layton Park Dairy an outgrowth of your individual activities in conducting a milk route?

A. Yes, sir.

Q. It is. How was the Layton Park Dairy formed?

A. A brother of mine was also in the milk business and two other partners, Scherkenbach boys, and we formed the Layton Park Dairy at that time by combining the four routes.

Q. Will you tell us how you conducted your business prior to the time when you instituted pasteurization of the Layton Park Dairy?

Mr. Wake: I am inclined to object to this as immaterial.

The Court: Objection sustained.

Mr. Miller: That is all.

Mr. Wake: No questions. I would like to ask one question.

[fol. 402] Cross-examination.

By Mr. Wake:

Q. Does your firm handle this orange drink, so-called, or fruit juices?

A. Yes.

Q. I would like to ask you, is that done, in your case, by using a concentrate and mixing it and bottling it?

A. That is right.

Mr. Miller: I would like to ask another question. That wasn't on direct.

The Court: ~~Come back to the stand.~~

Redirect examination.

By Mr. Miller:

Q. Do you know of other dairies that handle similar products?

A. I think there are several in the city.

Q. Are there any that don't prepare from concentrate but make the complete product and sell and bottle it, if you know?

A. I am not sure. I think there is one in the city that does.

Q. Do you know of any other products that are sold in the city that aren't made or prepared by the dairy that sells them?

A. We haven't any. I don't know of any.

Mr. Miller: That is all.

Mr. Wake: No questions.

(Witness excused.)

Mr. Miller: Mr. Heil.

JOSEPH F. HEIL, called as a witness herein, on behalf of the defendant, being first duly sworn, was examined and testified as follows:

Direct examinaiton.

By Mr. Miller:

Q. Your name is?

A. Joseph F. Heil.

Q. What is your position, Mr. Heil?

A. Well, I do sales engineering and estimating for the Vilter Manufacturing Company.

Q. What do they build?

[fol. 103] A. They build refrigerating equipment.

Q. And do they specialize in any particular type of refrigerating equipment?

A. Well, we do build ammonia compressors and all its component parts that go with complete refrigerating plants, whether it is an ice plant or dairy plant or an ice cream plant or air-cooling or any typical refrigerating plant.

Q. Do you specialize in any type of refrigerating plant?

A. Well, I have been doing figuring of skating rinks and dairies and breweries, and, well, almost anything that comes along, outside of air conditioning.

Q. How long have you been engaged in this occupation?

A. About thirty-five years.

Q. Are you familiar with the types of refrigerating equipment used in dairies?

A. Oh, yes.

Q. In the course of your work have you designed equipment for dairies?

A. Well, we design everything in so far—outside of the pasteurizing cooler, which is usually a nickel-plated or a stainless steel cooler which is fabricated by these dairy equipment manufacturers, as a general rule. The balance of the equipment that is used in refrigeration is all manufactured or furnished by us, outside of the motors and such parts that are special.

Q. Are you familiar with the types of refrigerating equipment used in dairies in Milwaukee?

A. Yes.

Q. Have you had occasion to examine them yourself, on occasion?

A. Yes. I examined the Layton Park Dairy Saturday morning, as well as Golden Guernsey and Emmer Brothers.

Q. Have you examined other dairies on other occasions?

A. I have been in quite a number of them, yes.

Q. Did you have occasion to make a study in connection with the operation of refrigerating equipment of the dairies you enumerated?

A. Yes. I made a survey of them Saturday morning. I secured the information from the operators as to the quantity of milk.

Q. What was the purpose of your study, if I may interrupt?

[fol. 104] A. To arrive at the possible ton hours or kilowatt consumption required in these particular dairies.

Q. Kilowatt consumption for what types of equipment?

A. For the refrigerating equipment.

Q. Did you divide that into any types of equipment?

A. I didn't understand that question.

Q. Did you divide your studies into the types of equipment used in dairies?

A. Well, I noticed that most of them have practically the same type of equipment, outside of the pasteurizer cooler at the Golden Guernsey being of the more modern type than those—that a- Emmer Brothers and Layton Park Dairy.

Q. Did you ascertain the amount of electrical energy that is used in cooling milk in each of these dairies on that particular day when you were there?

A. Yes, I figured the quantity of regular milk, homogenized milk, cream and skim milk that was cooled after it had been pasteurized.

Q. That is, cooled from the—

A. From the second stage cooling after it left the water section down to the final stage over the ammonia or brine cooler section.

Q. Did you calculate the amount of electrical energy that is used in holding milk after it had been bottled?

A. Yes. I based that on the size of the cold storage room, considering the insulating losses, the quantity of cases and bottles that went in there, and made an assumption as to the amount of water that was also introduced into the room in the cases, as well as the bottles; the men in the room, the lights, and an approximation on the air infiltration because of the door openings through which the cases passed in conveyors—or on conveyors; then, also, the amount of milk that was held in the holding tanks, the length of time they usually operate the refrigerating equipment on the holding tanks for both raw milk, cream and buttermilk.

Q. Will you state the amount of electrical energy that was used in the pasteurizing cooling as against the amount of electrical energy that was consumed on that day by the refrigerating machines that you examined in the holding room?

[fol. 105] Mr. Wake: That is objected to upon the ground that there are many assumptions involved, as the witness has stated; that one day's study wouldn't be probative to the issue.

The Court: Objection overruled. He may answer.

(Whereupon the reporter read the pending question.)

A. Well, the kilowatt hour consumption for pasteurization of the milk, cream, skim milk—

Mr. Miller:

Q. Are you confining your answer to a particular dairy now?

A. Yes. — averaged about 32 per cent of the total. That, of course, was due to the fact that the water temperature was rather low on Saturday.

Q. Will you state the conclusion, then we will get to the reasons later?

A. I say it was about 32 per cent of the total, I would judge.

Q. In what dairy?

A. Well, that seemed to average about the same throughout.

Q. Which dairy?

A. Layton Park, for instance. I have this in kilowatt hours consumption here. Layton Park Dairy required 63.25 kilowatt hours for pasteurization based on 24,000 pounds of milk, 5 gallons of pasteurized cream, and 14,000 pounds of pasteurized skim milk.

Q. And what did it require for holding and keeping the milk cold?

A. Holding required 139 kilowatt hours.

Q. That was the Layton Park Dairy?

A. That was Layton Park Dairy, yes.

Q. Will you state the number of kilowatt hours consumed in each of these operations in the Golden Guernsey Dairy?

A. Golden Guernsey—we have 161 kilowatt hours for pasteurizing 82,350 pounds of pasteurized milk, 8,660 pounds of pasteurized homogenized milk, 280 gallons of pasteurized cream, and 180 gallons of pasteurized skim milk.

Q. Now, will you state how many kilowatt hours were used in the cooling for pasteurization?

A. That was for the pasteurization, yes.

[fol. 106] Q. Will you please state what that kilowatt hour consumption was?

A. 161 kilowatt.

Q. And what was the kilowatt hours consumed in the holding room?

A. That was 784.

Q. Will you tell us the amount of electrical energy that was used in the cooling as a part of pasteurization in the Emmer Brothers Dairy?

A. Emmer Brothers—cooling 10,000 pounds of pasteurized milk, 50 gallons of pasteurized cream, and 2,000 pounds of pasteurized skim milk required 38.7 kilowatt hours.

Q. And will you state how many kilowatt hours were consumed in the refrigeration of the holding room?

A. That amounted to 64.2.

Q. 64.2. Now, I believe you stated that this investigation was made on Saturday?

A. That is right.

Q. Do you recall what the temperature was on that day?

A. The temperature in the morning at the time the survey was made was about 75 degrees in the sun.

Q. Inside, you say?

A. No, in the sun.

Q. Do you consider that an average day for Milwaukee?

A. Well, we would consider that a normal average day, maybe a slightly low average day, but I would consider it about an average day, yes.

Q. On colder days during the year is more or less electrical energy used for refrigeration?

A. You require considerably less refrigeration during the winter months.

Q. Why would that be?

A. It may drop as low as 35 to 40 per cent of the total, depending upon the type of pasteurizing cooler they have and also the arrangement of the rooms in so far as the cold air and warm air entrances are concerned.

Q. Is the equipment that is present in those three dairies similar to the type of equipment that is used in other dairies that you have observed in Milwaukee?

A. Yes, I would say it is with the exception of some, probably, having some of the later types of pasteurized cooler, I should say pasteurized milk cooler.

[fol. 107] Q. Do these pasteurized milk coolers, these more modern ones, consume less electricity?

A. I wouldn't say they consume less electricity. They are so designed that they probably can get a better heat transfer and use various types—or temperatures of water that may not be available with another type or the con-

ventional type of pasteurized milk cooler, which consist of tubular coils.

Q. Is water used extensively in the cooling of milk in Milwaukee by dairies?

A. Yes; you use water up to such a stage where you have to use a refrigerant to get your final temperature.

Q. Approximately how low has the water in Milwaukee been able to bring the pasteurized milk before mechanical refrigeration occurs?

A. Well, it is usually about two to three degrees above the water temperature.

Q. And how low is the water temperature in winter?

A. In winter it has gone down as low as 38 degrees.

Q. And what is the maximum in the summer?

A. The maximum for various seasons has reached 67, except the last two years it has been rather cool and it has probably not reached a maximum of more than 60 degrees.

Mr. Miller: That is all.

The Court: Cross-examine.

Cross-examination.

By Mr. Wake:

Q. Are you a graduate engineer?

A. No. I have had 35 years of experience, and I have taken—done some studying at the University Extension.

Q. So that you are testifying generally as a practical man and as an estimator; is that right?

A. That is right, with the knowledge of refrigeration.

Q. When the statement was made, if it was made, that an average normal day for Milwaukee is 75 degrees Fahrenheit, did that mean normal for September 21?

A. No. I would consider that—well, you cannot consider it as a mean average because a mean average in Milwaukee is about 71 degrees.

Q. The mean average of Milwaukee is 71?

A. I mean maximum mean.

Q. Oh, maximum mean?

A. That is right.

[fol. 108] Q. What is the mean average of Milwaukee, if you know?

A. Well, I believe I can figure that—give you that information.

Q. It is in the record here. I just want to know—

A. That is all right. I have it here, also. I was assuming a 75 day would be what we would consider an average day.

Q. An average day for that time of the year?

A. It could be for that time of the day. If you consider the mean average it would be a little high, yes.

Q. The point I am making is, the term "normal day" doesn't mean throughout the year?

A. That is right.

Q. The question was asked of you if you designed and you said in response "we". You actually have not designed any equipment yourself, have you?

A. In the employ of the concern I work for, yes.

Q. Have you personally designed it?

A. Yes. I worked on the drawing board for 14 years before I did sales estimating.

Q. And on the drawing board you give execution to somebody else's idea, don't you?

A. Well, we, of course, figure out the various conditions which are to be met in order to produce or furnish the proper size equipment to do the proper amount of work.

Q. But the design of it is that of the engineers, isn't it?

A. Yes—well, as I said, I have done some drawing room work and, of course, did some designing.

Q. When you gave us the breakdown of these kilowatt hour figures, is it true that you have placed all of the refrigeration consumption in kilowatt hours except that portion which went directly into the cooling coils interspersed in the vats or in conjunction directly with the vats; have you placed all else in the method of excluding it from pasteurization?

A. Well, in the holding it was the amount of cooling that had to be done within a given time from one temperature to the other temperature without any motor heat of pumps and pumping that is required to pump that to the pasteurizers.

Q. Maybe I didn't ask you a very clear question. What I mean is, have you taken, on the one hand, only that portion of the refrigerant energy that is in the coils of the vats [fol. 109] themselves or the next step removed from the vats and taken all of the other refrigerant and put it into a separate group?

A. I put each one in a separate group, the pasteurized milk, the homogenized pasteurized milk, the cream and the skim milk.

Q. What about the holding tanks?

A. That is a separate item, also. That goes in with—has been figured in with the holding room.

Q. That has been figured with the holding room?

A. That is right.

Q. Who told you to do that, Mr. Heil?

A. I was told to separate pasteurization refrigeration from holding room refrigeration.

Q. And you don't claim to know what pasteurization is strictly as a process, do you?

A. Not in so far as the chemical reactions which will take place or the biological effects or anything like that.

Q. Well, on the holding tanks who told you to categorically place those with the refrigeration room as distinguished from any portion of the pasteurizer?

A. I was requested by Mr. Miller to do that.

Q. You had no preconceived notion of that before you derived the figures you mentioned, did you?

A. No.

Q. Now, in the case of Layton Park Dairy—

A. Yes.

Q. —can you furnish an estimate of the connected load assignable to that portion of refrigeration used directly in the pasteurizing milk as it comes out of the vats?

A. No, I can't do that. I base my load upon the number of ton hours of refrigeration required to cool that milk from 60 degrees to 45 degrees Fahrenheit—or 40 degrees Fahrenheit.

Q. On that particular day?

A. That is right.

Q. You didn't consider the connected load of that particular demand at all?

A. No, because that load, based on the rated horse power of the motor, may vary.

Q. As a matter of fact, the connected load necessary for that portion of the refrigeration is greatly in excess of that portion of the connected load used to service the cooling room, isn't it?

[fol. 110] A. The cooling room refrigerating load is greater than the pasteurization cooling load is.

Q. You are talking about the consumption?

A. That is holding room consumption, yes.

Q. I am asking you about the connected load capacity.

A. Well, the connected load capacity is always greater than the actual load because of the fact that we usually allow a factor of safety for the motors operating those machines.

Q. I am asking you to direct your attention, for the moment, to the connected load capacity of that type of refrigerant process directly after the pasteurizing vats as compared to the connected load capacity used to service the cooling room.

A. In other words, you mean the separation between the two?

Q. That is right.

A. Yes. Well, as I said, pasteurization based on the temperature of water available for the initial cooling results in less refrigerating or kilowatt hour requirements than the holding rooms do.

Q. But, by the same token, the connected load capacity is in much greater proportion in that portion calculated to serve—

A. I understand now what you mean.

Q. Yes.

A. In pasteurization cooling we operate the compressors with a higher suction pressure which requires less horse power per ton. Naturally, our kilowatt consumption per ton is less because our temperatures are higher in pasteurization cooling than they are in room cooling.

Q. And there is a much quicker change in the reduction of temperature from 145 to 40 after the milk comes out of the vats than there is in any other change in the Milwaukee temperature, isn't there?

A. That is correct.

Q. And that requires a high capacity refrigerant energy at that stage, doesn't it?

A. Not necessarily. It depends upon the rate of flow or the quantity of milk that is cooled on the hourly basis.

Q. I will ask you about the rated capacity of the motors. Those used to provide refrigerant for the coils next removed from the vats are at a much higher rated capacity than those used to produce refrigerant for the cooling room; isn't that the fact?

[fol. 111] A. I wouldn't say that. It depends upon how many compressors they have and the capacity of the compressors, and depending on which size machine they would operate on the holding room as compared to the pasteurization room.

Q. Did you look over the Exhibit "H" which the taxpayer and the government have stipulated to so far as Layton Park Dairy is concerned, that shows the capacity rates of those motors—rated capacity of those motors?

A. Yes, but I didn't take that into consideration in my calculations because I arrived at the ton hours required to do the cooling.

Q. Well, you didn't ignore the relationship completely, did you?

A. Well, I wouldn't say that I considered it because I was to arrive at the ton hours in order to separate the pasteurization cooling load from the room cooling load.

Q. I think we understand what you did. This is true, isn't it, that in all the dairies you know of around this county the rated capacity of the motors used for the provision of the refrigerant in the coils right out of the pasteurizer next removed from the vats are as much higher than the rated capacity of the motors utilized to supply refrigerant for the cooling room?

A. Not necessarily.

Q. Have you looked into that point at all?

A. Yes, because there may be various size machines in a plant; they may have two machines operating on one load, and they may only have one on the other, depending upon the pressures at which they operate and the cooling surface that the cooler contains.

Q. That is, there may be a split in the function of one motor or one compressor; is that what you are—

A. That is right. They try and maintain the same suction pressure or refrigerant temperature on each particular set of coolers.

Q. But there is more capacity and more output from the compressors used as a safety measure or as a backlog for the cooling following the vats than there is devoted to the cooling room; isn't that the fact?

A. Not necessarily, no. It can't be, unless you are trying to cool a greater amount of pasteurized milk than the cooler is normally designed for.

Q. You understand the difference between consumption and capacity, do you?

[fol. 112] A. Well, I can't see—in consumption, you probably allow 10 per cent for losses.

Q. Do you understand the distinction between the consumption and capacity?

A. Yes. In capacity we rate the capacity based upon the volume of ammonia that is pumped by the compressor, and in consumption we would base it upon the quantity of cooling that has to be done, plus the losses.

Q. Have you studied the electric motors themselves in terms of capacity?

A. No, I did not. The only thing I did, I allowed an 85 per cent efficiency factor for a squirrel-cage motor which all of these dairies have.

Q. Can you explain to me, from the way you have been reasoning, the difference, if there is one, between the amount of refrigerant to hold one ton of milk in a cooling room as distinguished from the amount of refrigerant required to reduce one ton of milk from a temperature of 143 degrees Fahrenheit to 40 degrees Fahrenheit?

A. Yes. You would have the quantity of milk that you would have in that particular tank through the temperature range through which you would have to cool it, plus your losses through the walls of the tank.

Q. Well, there is a much greater expenditure of energy in that process than there is merely in holding it in the cooling room, isn't there?

A. From information that I have secured or what I have been told is that the milk in the holding tanks or the cream in the holding tanks—

Q. I didn't talk about holding tanks. Holding room; cooling rooms.

A. Oh, holding rooms. Well, your losses are the biggest factor in the holding rooms due to the amount of water that goes in with the bottles and the wet cases and the air that filters in through the openings through which the conveyors go and also the outside door openings which, of course, are affected mostly when they are loading and unloading milk—or loading milk on the platform.

Q. Now, if you had a dairy that sent three-fourths of its milk to distribution stations as soon as it went into bottles as distinguished from holding it all in the holding

room or refrigerating room, would you expect a decrease in direct proportion in your refrigerating capacity?

A. Of the machine or of the requirements?

[fol. 113] Q. Of the requirements.

A. Well, I would say that if it is not held in the storage room any length of time, the requirements would be less.

Q. Well, I am putting to you a hypothetical case where three-fourths is immediately sent beyond the confines of that plant, one-fourth held as distinguished from another plant where the entire volume was held, both volumes being equal.

A. Well, in that case I would say your refrigeration losses would be less due to the fact that you wouldn't be removing the heat of the bottles and the cases in that holding room with the exception of the heat losses coming in the door through the loading operation.

Q. Would you expect the difference to be in almost direct arithmetical proportion to the removal of three-quarters of the volume in the one instance?

A. No. It may be a little bit more than the one-quarter because of the fact that that quarter, 25 per cent that remains in has the moisture in the cases, and also the bottles.

Q. In your studies, how many hours does the refrigeration for the pasteurization normally run at Layton as contrasted to the number of hours of refrigeration for the cooler room normally run?

A. That depends upon the quantity of milk that you run over the cooler per hour.

Q. What did you find it to be Saturday, please?

A. And also the number of door openings, of the temperature to which the milk or the room has risen after all of the crates and bottles have been into the room. That is hard to decide because of—the capacity of the compressor determines the number of hours which would be required for bringing the room temperature down and holding it at that temperature at which it should be held.

Q. Did you study that characteristic on Saturday?

A. No, because you would have to stay there and time the number of hours—or time the operation of the machine and the stoppage period.

The Court: Let's hurry on, Mr. Wake.

Mr. Wake:

Q. You didn't give consideration in any of the questions you attempted to answer so far as to independent water systems of any of the dairies, did you?

A. At Golden Guernsey they have a separate well which [fol. 114] produces about 54 to 56 degree water constantly throughout the year. They use that in their pasteurization cooler between the initial lake water cooling section and the final sweet water cooling section. Another thing with Golden Guernsey, I think they hold their cream and their skim milk with the well water. They claim that they maintain low enough temperatures to be able to use that well water.

Q. Now, in the use of that well water as the first element for cooling beyond the pasteurizing vats, did you put anything in your consumption for the pumping of that well water?

A. I did not.

Q. It is properly part of the pasteurization at that stage, isn't it?

A. It would be, yes. We do find that at Layton Park Dairy they hold 1500 gallons of milk, whereas at Golden Guernsey they hold 3,000 gallons of milk, and at Layton Park Dairy we have a three horse power motor operating two hours per day to produce the cooling effect for those holding tanks.

Q. Now, your figures all represent a theoretically perfect operation of the equipment; is that the way you do it?

A. I allowed 10 per cent for losses on the pasteurizing side.

Q. And you know nothing about the actual consumption or operation contrasted to the theoretical as you outline in your initial assumptions; that is correct?

A. That is correct, because that would have to be determined with instruments; especially the operating time would have to have esterline meters on them.

Mr. Wake: That is all.

Redirect examination.

By Mr. Miller:

Q. Just one question. Counsel asked you about the refrigeration used in cooling the milk from 140 degrees down

to—pasteurization—down to the temperature of 40, rather. Now, in any of the dairies you visited, was it necessary to bring down the temperature mechanically from 140 to 40?

A. Well, we used a refrigerant for the final cooling stage from that to which it was cooled by the lake water or well water.

[fol. 115] Q. Which is below 140?

A. Oh, yes. That Saturday it averaged around 60 degrees or so.

Mr. Miller: That is all.

Recross-examination.

By Mr. Wake:

Q. What temperature did you assume in your storage?

A. 37 degrees.

Mr. Wake: That is all.

(Witness excused.)

The Court: Other witnesses?

Mr. Miller: Mr. Manning.

ROBERT E. MANNING, called as a witness herein, on behalf of the defendant, being first duly sworn, was examined and testified as follows:

Direct examination.

By Mr. Miller:

Q. Will you state your name, please?

A. Robert E. Manning.

Mr. Wake: May it please the court, I would like to see if we can clarify something that may not become important and may not be important, but the terminology is a little disturbing. If you will come up here, Mr. Miller. In all of the schedules the footnote which was put on last night, I believe, refers to asterisk—correction, the second one says—this is on all of the schedules and was put on as an explanation: "The kilowatt hours daily consumption repre-

sents the rated horse power output of each motor times the estimated hours of daily use." The exhibit itself refers to equivalent kilowatt input. The estimate is derived from the last column, which the court will see, when it comes to kilowatt hours daily consumption as a product of the two that are up there, hours times input. I don't know just how the output got in there. It wasn't, as I understand, intended to be in that form. I don't think it is going to influence anyone, except the exhibit itself doesn't seem to line up consistently. It is a little point of confusion, I believe.

The Court: What do you say?

Mr. Miller: The entire footnote was merely meant for the purpose of showing kilowatt hours daily consumption [fol. 116] isn't an actual consumption figure but is merely the consumption figure that would be used if each motor were going to its full capacity, constantly compressing.

Mr. Wake: We agree on that.

Mr. Miller: And I didn't think that that difference which counsel points out in the language was intended to mean anything other than that.

The Court: Well, as long as there is an understanding about it I think you need take no more time on it.

Mr. Miller:

Q. Mr. Manning, what is your occupation?

A. Internal Revenue Agent.

Q. How long have you been an internal revenue agent?

A. About twelve years.

Q. Have you specialized in any field in the internal revenue?

A. Yes, in miscellaneous taxes; principally tax on gasoline and oil, on electrical energy, and on manufacturers' taxes.

Q. What does your work as a revenue agent consist of?

A. Examining the different companies that pay tax to determine their correct tax liability, if tax liability has been correctly reported.

Q. To your knowledge, does the Bureau of Internal Revenue have any established or consistent practice with respect to the classification of the consumption of electrical energy by consumers engaged both in commercial operations and in manufacturing operations where they have only one electric meter?

Mr. Wake: That is objected to upon the ground that I believe that would be covered by published rulings, cumulative bulletins, for example, memoranda of counsel, any of the recognized sources of publication.

The Court: What is the purpose; to show some practice of the Bureau to be controlling?

Mr. Miller: To show the practice of the Bureau with respect to situations where a company makes, for example, both butter and pasteurizes and distributes milk.

The Court: Suppose it was the practice of the Bureau. Then what?

Mr. Miller: To show how the Commissioner of Internal Revenue arrived at the determination in the case of a dairy that sells both pasteurized milk and butter or cheese or ice cream.

[fol. 117] The Court: Well, is the taxpayer supposed to be cognizant of what the practice of the Bureau might be? Is that binding on him? Or is the purpose something else for which you offer the testimony?

Mr. Miller: Well, it isn't to bind the taxpayer but merely to show the test which has been consistently applied, so that if in argument we can determine what is the reasonable basis for determining the predominant use of the electrical energy or the predominant nature of the business we are interested in, whether or not the determination of it is correct and the manner in which it has been applied.

The Court: Objection overruled. You may go into it for what it may be worth.

Mr. Miller: I didn't understand, your honor.

The Court: The ruling is you may go into it. Objection overruled.

(Whereupon the reporter read the pending question.)

A. Where a taxpayer has both industrial and commercial activities it is our custom to use the gross receipts method in determining which is the predominant character of the business. If manufactured products produce more receipts than products that are bought and sold or jobbing items, then the predominant activity of the business is established in that manner.

Mr. Wake: I move that be stricken on the ground of the previous objection on the theory that that is not anywhere stated in the regulations, it is not within the scope of any publications of the Treasury Department; and on the fur-

ther ground that the plaintiff here, as a taxpayer, is not within the category within which the test can be applied as outlined by the witness. The taxpayer here is engaged in furnishing electrical energy.

Mr. Miller: If your honor please, the question in this case is whether or not the Commissioner of Internal Revenue adopted a reasonable method in determining the predominant use of electrical energy in this case.

The Court: I think on the basis of the previous ruling that the objection will again be overruled. You may proceed. It may be understood, so that Mr. Wake won't have to object to every question that elicits information along this line, that all such questions asked are received subject to the objection he has heretofore made and the ruling is the same.

[fol. 118] Mr. Miller:

Q. In the case of butter, cheese and ice cream, how do you apply the test you have stated?

A. We would consider that as a manufacturing activity.

Q. And how would you apply this gross receipts test you mentioned as compared with milk sold—fluid milk sold by the same dairy?

A. We would ascertain the quantity of sales of manufactured products and the amount of sales of fluid milk and whichever was larger would determine the taxability of the account.

Mr. Miller: If your honor please, may I make a short statement here and perhaps we can simplify this? Dependent upon whether or not your honor wants to hear oral argument in this case we will rest the desirability of asking Mr. Manning further questions. The stipulation is rather lengthy and can be summarized in briefs if no oral argument is heard.

The Court: I don't think I am going to ask for oral argument. I think I am going to ask you to submit it on briefs and you can then point out to me the important parts of the stipulation, and so forth, and I think it will save me time. I have been trying to get out a couple of other opinions and I have been going back piecemeal. I don't know how good they are going to be.

Mr. Miller: I won't ask any further questions.

The Court: Cross-examine, Mr. Wake.

Cross-examination.

By Mr. Wake:

Q. The butter, cheese and ice cream mentioned—is that covered by official ruling, published ruling of any kind?

A. It is what they term an informal ruling.

Q. An informal ruling at times is given publication, isn't it?

A. That is right.

Q. Are those the subjects of publication?

A. Yes, I think they are.

Q. Now, when you speak of the gross receipts test and use fluid milk precisely, you assume that in that thinking so far as you are doing the approach to the matter, that regardless of what took place in the pasteurizing vats that entire commodity or product is, nevertheless, still a product [fol. 119] similar to what it would be were it to be sold as raw milk?

A. That is right.

Q. Well, that reasoning is directly in opposition, then, to the Colorado case in 143 Fed. 2d 79, isn't it?

A. That I am not familiar with the numbers that you quote there.

Q. I mean the so-called Colorado Public Service Company case in which the Commissioner failed to acquiesce.

A. That is right.

Q. The fluid milk sales are always, in any case that you have encountered, much higher in any measurement than the manufactured items of a dairy, isn't it, either gross receipts test or—

A. Do you mean the particular dairies involved in this case?

Q. Well, yes, let's take them in this case, perhaps. That is more pertinent.

A. That may be true of all but two. I think there is two in this that have more.

Q. It is generally true in the dairy industry, isn't it, that fluid milk, especially in the large plants which have pasteurizers, is the larger part of the percentage of gross sales than any of the so-called manufactured items, including butter and cheese?

A. I couldn't testify exactly on that.

Q. In preparing items for market such as, for example,

fruit—and Witness Professor Mortenson mentioned that in passing—the department has ruled, has it not, that any energy which might be expended in the preparation of that type is, in effect, exempt under the theory that it is preparing for market rather than commercial in nature?

A. No, that is not right.

Q. The canning of vegetables, bringing them to a requisite degree of temperature and inserting them in hermetically sealed cans, either with or without sweetening, as the case may be, constitutes an enterprise which is, under the rulings, an exempt situation?

A. I believe there is a ruling that some types of canning are considered industrial.

Q. Taking a bottling works involving taking concentrated product, adding water to it in appropriate solution, and selling it as a bottled commodity—that has been ruled to be an exempt classification?

[fol. 120] Mr. Miller: If your honor please, I object to that. The only purpose this witness was put on for was to state what the Commissioner's position was.

The Court: I suppose he is going into the question of whether it is a reasonable approach, whether the Commissioner adopted a reasonable interpretation in one industry and not in this. I imagine that is why he is asking.

Mr. Miller: If your honor please, that would be a matter of argument whether it is reasonable or not.

The Court: Objection overruled. Confine yourself to it because I can't see it has a great deal of weight.

Mr. Wake:

Q. Do you know that the frozen food industry is exempt from the tax because of a ruling by the Commissioner?

A. I haven't seen that ruling.

Mr. Wake: I think that is all.

(Witness excused.)

The Court: Next witness.

Mr. Miller: I have nothing further.

The Court: Defendant rests.

Mr. Wake: No rebuttal, your honor.

The Court: I am going to let you submit this on brief because not having seen the stipulation it would be almost

a waste of time to do otherwise. Can you have your brief in by 20 days, Mr. Wake?

Mr. Wake: I am almost positive I can do it in that period.

The Court: You may have 20 days to file your brief and the defendant may have 30 days to reply. In the event you desire a reply brief covering points not touched in your main brief, the plaintiff may have 5 days thereafter to make reply.

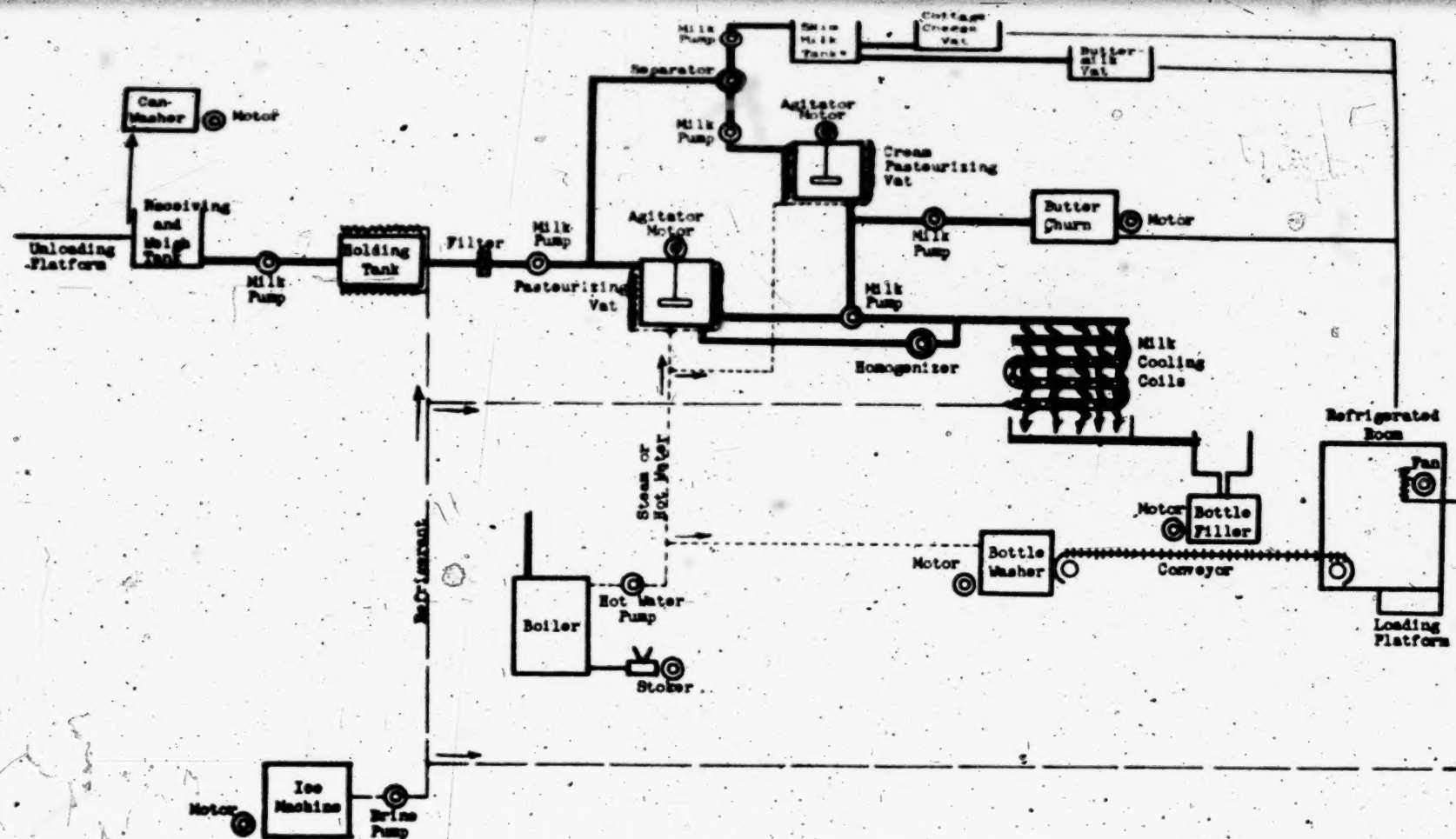
Mr. Wake: Thank you, your honor.

The Court: Court will be in recess. The parties will retain their exhibits but make them available to the other party in the event they need them for preparing a brief.

(Which were all the proceedings had and testimony taken in the above entitled matter at said time.)

[fols. 121-122] Reporter's Certificate to foregoing transcript omitted in printing.

(Here follows 1 Photolithograph, side folio 123)



PLAINTIFF'S EXHIBIT 1.

SCHEMATIC DIAGRAM OF A DAIRY PLANT LAYOUT

NOTE: One milk pump may perform one or more of the above-indicated pumping operations if portable milk pumps are used or if suitable piping connections are installed.

- Skim milk is also pasteurized; either in the skim milk tank or in one of the other pasteurizing vats.

[fols. 124-125] DEFENDANT'S EXHIBIT "A"

U. S. Treasury Department
Public Health Service

Public Health Bulletin No. 245

December 1938

Milk Supplies and Their Control in American Urban
Communities of Over 1,000 Population in 1936

By

A. W. Fuchs, Senior Sanitary Engineer

and

L. C. Frank, Senior Sanitary Engineer

From the Division of Public Health Methods
National Institute of Health

Prepared by Direction of the Surgeon General

United States Government Printing Office

Washington : 1939

For sale by the Superintendent of Documents, Washington,
D. C. Price 10 cents

[fol. 126] Production and Consumption of Fluid Market
Milk. Number of Dairy Farms and Plants

The number of raw-milk distributors, pasteurization
plants, and producing farms per 1,000 population in 1936
is shown in table 3.

Table 3.—Number of raw-milk distributors, pasteurization
plants, and producing farms per 1,000 population in
1936

By population groups

Population group	Number per 1,000 population		
	Raw-milk distributors	Pasteurization plants	Producing farms
1,000-2,499	2.9	0.26	1.5
2,500-4,999	1.9	.29	2.2
5,000-9,999	1.7	.28	3.7
10,000-24,999	1.1	.21	2.9
25,000-99,999	.6	.20	5.9
100,000-499,999	.4	.14	7.2
500,000 and over	.1	.07	7.5
Unweighted mean for cities reporting	2.0	.26	2.6
Number of cities reporting	2,286	2,372	1,941
Weighted mean for United States ¹	.8	.17	5.5

¹ The weighted mean represents the average for the entire population of all municipalities of over 1,000 population in the United States. It was computed as follows: (1) Multiply the number of raw-milk distributors (or pasteurization plants, or producing farms) per 1,000 population in each population group by the total population in that group in the United States; (2) total these products for all population groups; and (3) divide by the total population of all municipalities of over 1,000 population in the United States.

All other means and rates in this table, including those for each population group and each geographic division, are unweighted.

[fol. 127]

By geographic divisions

Number per 1,000 population

Geographic division	Number per 1,000 population		
	Raw-milk distributors	Pasteurization plants	Producing farms
New England	2.9	0.29	5.5
Middle Atlantic	1.2	.31	6.6
East North Central	1.9	.37	3.8
West North Central	3.3	.19	1.4
South Atlantic	1.8	.13	1.5
East South Central	1.4	.10	.8
West South Central	1.5	.09	.9
Mountain	2.3	.23	1.3
Pacific	1.4	.34	1.1

The weighted mean number of raw-milk distributors for all cities of over 1,000 population in the United States was 0.8 per 1,000 population, or one for every 1,250 persons. The unweighted mean for the 2,286 municipalities reporting on this item was 2 per 1,000 population. The number of raw-milk distributors per 1,000 population varied inversely with the size of city, ranging from a mean of 2.9 in the 1,000-2,499 population group to 0.1 in cities of over 500,000. The West North Central division had over 3 per 1,000 population, the New England and the Mountain States between 2 and 3, and all other divisions less than 2. The differences, both by population groups and geographic divisions, are largely a reflection of the variation in the percentage of raw milk sold. In individual cities the number of raw-milk distributors per 1,000 population ranged from 0 to 20, but was under 2 in nearly two-thirds of the municipalities.

The weighted mean number of pasteurization plants was 0.17 per 1,000 population, or 1 for every 6,000 persons. The mean for the 2,372 cities reporting on this item was 0.26 per 1,000 population. The number of pasteurization plants per 1,000 population varied inversely with the size of city, ranging from a mean of 0.29 in the 2,500-4,999 population group to only 0.07 in the cities of over 500,000. This unexpected result is due to the fact that, while the percentage pasteurization in the largest cities was 4 times as high as in the smallest, the volume handled per pasteurization plant was 18 times as large. Geographically the mean va-

[fol. 128] ried from 0.09 per 1,000 persons in the West South Central States to 0.37 in the East North Central division. In the latter the percentage pasteurization was twice as high and the plants were twice as large as in the former. In individual municipalities the number of pasteurization plants per 1,000 population ranged from 0 to 4, but was under 0.3 in over two-thirds of the cities.

The weighted mean number of producing farms selling milk to pasteurization plants was 5.5 per 1,000 population, or 1 for every 180 persons. For the 1,941 cities reporting on this item the mean was 2.6 per 1,000 population. The group mean increased from 1.5 for the smallest cities to 7.5 for the largest. Geographically it was lowest in the East South Central division and highest in the Middle Atlantic. In both instances these variations parallel the trend of percentage pasteurization. For individual cities the number of producing farms per 1,000 population ranged from 0 to 128, but was less than one in two-thirds of the municipalities reporting.

Since 1923 the number of dairy farms producing milk to be consumed either raw or pasteurized, per 1,000 population, has decreased slightly for cities of over 500,000, but has increased slightly for cities between 70,000 and 500,000. The number of distributors (total of raw and pasteurized milk) per 1,000 population has increased slightly in these population groups.

[fol. 129] Table 11.—Amount of high-grade pasteurized milk sold¹

¹ Includes such designations as grade A pasteurized, select pasteurized, inspected pasteurized, guaranteed pasteurized, special pasteurized, and similar grades, but not certified pasteurized which is discussed elsewhere.

By population groups

Percent
of total
supply

Population group

1,000-2,499	8.0
2,500-4,999	17.8
5,000-9,999	23.3
10,000-24,999	29.9
25,000-99,999	36.0
100,000-499,999	38.6
500,000 and over	40.0
Mean 2,277 cities	18.1
Weighted mean for United States ²	33.35

By geographic divisions

Percent
of total
supply

Geographic division

New England	6.6
Middle Atlantic	35.0
East North Central	11.3
West North Central	8.0
South Atlantic	17.8
East South Central	20.7
West South Central	25.8
Mountain	11.1
Pacific	45.5

² Computed by same method as in table 9. All other means are unweighted.

Frequency distribution

Municipalities		
Percentage of total supply	Number	Percent
0	1,388	60.9
1-9	111	4.9
10-19	106	4.7
20-29	130	5.7
30-39	64	2.8
40-49	80	3.5
50-59	92	4.0
60-69	80	3.5
70-79	72	3.2
80-89	40	1.8
90-100	114	5.0
Total	2,277	100.0

One-third of the total milk volume of all cities of over 1,000 population was sold as one of these high grades of pasteurized. For the 2,277 municipalities reporting, the unweighted mean was 18.1 percent. The mean increased uniformly with size of city, from a low of 8 percent in the smallest towns to a high of 40 percent in the largest cities. It was lowest in New England and highest in the Pacific States. High-grade pasteurized was available in less than 40 percent of the municipalities reporting, and its proportion of the total supply in these ranged from 1 to 100 percent. High-grade pasteurized constituted 45 percent of the total pasteurized milk sold.

Vitamin D pasteurized milk (other than certified) was reported sold in 15 cities, but this figure is probably far from complete.

Of the total milk supply sold in communities of over 1,000 population in the United States, 40 percent was ungraded pasteurized or low-grade pasteurized. The unweighted mean for the 2,279 municipalities reporting was 23 percent. The mean increased uniformly with size of city, from a minimum of 16.2 percent in the smallest municipalities to a maximum of 55.0 percent in the largest. The means were highest in the Northeast and lowest in the South and on the Pacific coast. Low grades of pasteurized milk were sold in less than 40 percent of the municipalities.

in which the amounts sold ranged from 1 to 100 percent of the total supply.

[fol. 131] Amount and Price of High-Grade Raw Milk

The percentage of the total milk supply sold as high-grade raw milk is given in table 15, and the price is shown in table 16. "High-grade raw" includes such designations as grade A raw, select raw, baby raw, inspected raw, guaranteed raw, special raw, and similar grades, but not certified raw, which has already been discussed.

Table 15.—Amount of high-grade raw milk sold.¹

By population groups

Population group	Percent of total supply
1,000-2,499	13.6
2,500-4,999	23.0
5,000-9,999	28.1
10,000-24,999	26.2
25,000-99,999	21.0
100,000-499,999	10.5
500,000 and over	3.5
Mean, 2,285 cities	19.7
Weighted mean for United States ²	14.44

¹ Includes such designations as grade A raw, select raw, baby raw, inspected raw, guaranteed raw, special raw, and similar grades, but not certified raw which is discussed elsewhere.

² Computed by same method as in table 9. All other means in this table are unweighted.

By geographic divisions

Geographic division	Percent of total supply
New England	3.5
Middle Atlantic	24.1
East North Central	4.0
West North Central	8.9
South Atlantic	30.1
East South Central	51.7
West South Central	52.5
Mountain	18.0
Pacific	37.1

[fol. 132]

Frequency distribution

Percent of total supply	Municipalities	
	Number	Percent
0	1,433	62.7
1-9	120	5.2
10-19	60	2.6
20-29	70	3.1
30-39	83	3.6
40-49	71	3.1
50-59	84	3.7
60-69	54	2.4
70-79	69	3.0
80-89	52	2.3
90-100	189	8.3
Total	2,285	100.0

Of the total milk volume sold in cities of over 1,000 population, 14.4 percent was high-grade raw. The unweighted mean for the 2,285 municipalities reporting was 19.7 percent. The mean did not vary regularly with size of city, but was high in the intermediate groups and low in the smallest and in the largest cities. Geographically the mean was lowest in New England and highest in the South. High grades of raw milk were available in less than 40 percent of the municipalities, and in these the amounts sold ranged from 1 to 100 per cent of the total supply. High-grade raw milk constituted 53 percent of all raw milk sold.

Amount and price of Ungraded and Lower Grades of Raw Milk

The percentage of the total milk supply sold as lower grades of raw or as ungraded raw is shown in table 17, and the price is given in table 18. These include such designated grades as grade B raw, grade C raw, grade D raw, market raw, family raw, ungraded raw, and similar grades, as well as raw milk for which no grade was designated.

[fol. 133] Table 17.—Amount of lower grades of raw milk sold ¹

By population groups

Population group	Percent of total supply
1,000-2,499	60.2
2,500-4,999	36.9
5,000-9,999	24.0
10,000-24,999	17.3
25,000-99,999	7.8
100,000-499,999	5.4
500,000 and over	0
Mean, 2,285 cities	39.0
Weighted mean for United States ²	12.12

¹ Includes such designated grades as grade B raw, grade C raw, grade D raw, market raw, family raw, and similar grades, as well as ungraded raw or raw milk for which no grade was designated.

² Computed by same method as in table 9. All other means are unweighted.

By geographic divisions

Geographic division	Percent of total supply
New England	47.4
Middle Atlantic	6.2
East North Central	43.0
West North Central	67.3
South Atlantic	43.5
East South Central	21.1
West South Central	19.0
Mountain	55.3
Pacific	12.2

[fol. 134]

Frequency distribution

Percent of total supply	Municipalities	
	Number	Percent
0	875	38.3
1-9	117	5.1
10-19	100	4.4
20-29	141	6.2
30-39	74	3.2
40-49	71	3.1
50-59	105	4.6
60-69	75	3.3
70-79	71	3.1
80-89	65	2.8
90-100	591	25.9
Total	2,285	100.0

Of the total milk supply sold in municipalities of over 1,000 population in the United States 12 percent was ungraded raw or low-grade raw. The unweighted mean for the 2,285 cities reporting was 39 percent. The mean strikingly varied inversely with size of city, from 60.2 percent in the smallest municipalities to 0 percent in the largest. Geographically there was a considerable, but irregular variation. The high percentages for the two North Central divisions reflect the relatively large proportion of ungraded raw milk. Ungraded or low-grade raw milk was sold in over 60 percent of the municipalities reporting, and in one-

fourth of all cities it constituted over 90 percent of the supply.

[fol. 135]

Summary

Table 19 presents a comparative summary of the various grades of milk discussed, with the number of municipalities in which they were available, the weighted mean percentage of the total supply of all United States municipalities of over 1,000 population which each grade constituted, and the mean price of each.

Table 19.—Summary of amounts and prices of the various grades of milk sold.

Classification of milk	Municipalities		Weighted mean percent of total supply	Unweighted mean price, cents per quart
	Number in which sold	Percent of those reporting		
Certified pasteurized	32	1.4	0.02	20.4
Other high grade pasteurized	889	39.1	33.35	12.4
Ungraded and lower grade pasteurized	874	38.3	40.16	10.7
Total pasteurized			¹ 73.53	
Certified raw	276	11.8	.46	18.0
Other high grade raw	852	37.3	14.44	12.0
Ungraded and lower grade raw	1,410	61.7	12.12	9.8
Total raw			27.02	
Total			¹ 100.55	

¹ This figure fails to agree by about 1 percent with the percentage of the total supply protected by pasteurization (74.7), to be discussed later, because some cities failed to report the data in both cases.

² The excess over 100 percent is due to the fact that some cities failed to report the data on all grades of milk sold.

[fol. 136] Extent of Pasteurization, Tuberculin Testing, and Abortion Testing

Extent of Pasteurization

In 1936, 74.7 percent of the total milk supply of all municipalities of over 1,000 population in the United States was protected by pasteurization (table 20). For all municipalities between 1,000 and 10,000 population in the country the weighted mean was 39.3 percent; for all cities over 10,000 it was 83.1 percent.

Table 20.—Percent of total supply protected by
pasteurization

By population groups

Population group	Number of cities reporting	Percent pasteurized
1,000-2,499	945	24.5
2,500-4,999	470	41.1
5,000-9,999	351	49.4
10,000-24,999	281	58.2
25,000-99,999	169	72.6
100,000-499,999	65	85.9
500,000 and over	10	97.5
Unweighted mean	2,291	41.5
Weighted means: ¹		
Over 1,000	—	44.7
1,000 to 10,000	—	39.3
Over 10,000	—	83.1

¹ The weighted mean for all municipalities of over 1,000 population in the United States was computed as follows: (1) Multiply the percentage pasteurized in each population group by the total United States population in that group and by the per capita consumption in that group; (2) total these products for all groups; (3) multiply the total United States population in each group by the per capita consumption in that group; (4) total these products for all groups; and (5) divide (2) by (4).

The weighted mean for all municipalities of 1,000 to 10,000 population in the United States and that for all municipalities of over 10,000 were computed in the same manner, but only the respective population groups were included.

All other means in this table, including those for each population group and each geographic division, are unweighted.

[fol. 137]

By geographic divisions.

Geographic division	Percent pasteurized
New England	50.4
Middle Atlantic	70.0
East North Central	54.2
West North Central	23.3
South Atlantic	25.3
East South Central	27.0
West South Central	28.1
Mountain	26.7
Pacific	51.3

Frequency distribution

Percent pasteurized	Municipalities	
	Number	Percent
0	742	32.4
0.1-9	58	2.5
10-19	109	4.8
20-29	140	6.1
30-39	105	4.6
40-49	108	4.7
50-59	206	9.0
60-69	153	6.7
70-79	168	7.3
80-89	108	4.7
90-99.9	259	11.3
100	135	5.9
Total	2,291	100.0

For the 2,291 communities reporting, the unweighted average was 41.5 percent. As was to be expected, the percentage pasteurization increased with size of city, from a low of 24.5 in the smallest municipalities to a high of 97.5 in the largest. In the three Northeastern divisions and the Pacific States the average city had over half of its supply pasteurized, but only about one-fourth was pasteurized in [fol. 138] the average city in the other five divisions. Pasteurization was most extensive in the Middle Atlantic States, and least extensive in the West North Central division.

No pasteurized milk was consumed in nearly one-third of the municipalities, but these were all under 25,000 population. In the remaining two-thirds the percentage varied from less than 1 up to 100 percent of the supply. However, pasteurized milk was available in over 98 percent of the cities of over 10,000 population.

All market milk was pasteurized in 135, or 5.9 percent, of the municipalities reporting, distributed in all population groups; but in only 65 of these was pasteurization of all milk required by city ordinance (table 21). There were 44 cities of over 10,000 population reporting 100 percent pasteurization in 1936, as compared to 35 in 1931.

Table 22.—41 municipalities reporting that all market milk except certified was pasteurized in 1936

(List not complete, as it includes only those municipalities which responded to 1936 questionnaire survey of milk control in United States municipalities of over 1,000 population. The 1930 population is given for each municipality.)

*=Cities in which pasteurization of all market milk except certified was required by city ordinance (36 cities). The other 5 cities reported that all market milk except certified was pasteurized in 1936, even though this was not required by ordinance.

Wisconsin:

* Milwaukee	578,249
* Racine	67,542
* West Milwaukee	4,168
* Whitefish Bay	5,362

For all municipalities of over 1,000 population in the United States, the weighted mean percentage pasteurization of 74.7 in 1936 compares with a weighted mean of 68.6 percent for 1924, or an increase of 6.1 points in 12 years. It was also possible to compute weighted means for all cities of over 10,000 population in the United States for a number of years, as follows: In 1924, 78.1 percent; in 1927, 78.6 percent; in 1931, 83.8 percent; and in 1936 a slight drop to 83.1 percent (table 23).

Table 23.—Comparison of percentage pasteurization for various years in the different population groups.

Population group	1923 ¹		1924 ²		1927 ³		1929-30 ⁴		1931 ⁵		1936 ⁶	
	Number of cities reporting	Percent pasteurized	Number of cities reporting	Percent pasteurized	Number of cities reporting	Percent pasteurized	Number of cities reporting	Percent pasteurized	Number of cities reporting	Percent pasteurized	Number of cities reporting	Percent pasteurized
1,000-10,000.....	..	..	73	33.6	..	..	226	30.2	..	..	1,766	39.3
10,000-25,000.....	..	..	105	42.5	128	43.7	..	..	213	58.6	281	58.2
25,000-100,000.....	..	..	104	66.8	136	67.9	..	..	187	74.9	169	72.6
100,000-500,000.....	55	80.6	37	81.7	51	82.0	..	..	71	87.2	65	85.9
Over 500,000.....	12	97.1	9	98.1	8	98.2	..	..	13	97.9	10	97.5
Weighted means for United States: ⁶												
Over 1,000.....	..	..	..	68.6	..	..	..	..	..	..	..	74.7
Over 10,000.....	..	..	..	78.1	..	78.6	..	..	..	83.8	..	83.1

¹ Public Health Bulletin No. 164 (1926), p. 413.

² Report of Committee on Milk Production and Control, White House Conference on Child Health and Protection. The Century Co., New York, 1932, p. 277.

³ Frank, L. C., and Moss, F. J. "Extent of Pasteurization and Tuberculin Testing in American Cities of 10,000 Population and Over in 1927 and 1931." Mimeographed publication, U. S. Public Health Service, 1933.

⁴ Same as footnote 2 above, pp. 38, 39.

⁵ From table 20.

⁶ Computed by weighting the percent pasteurized in each population group by the total United States population in that group. Per capita consumption for each group was not used in weighting the 1924, 1927, and 1931 figures because it was unknown, but this factor affects only slightly the accuracy of the weighted mean.

⁷ Weighted by both population and per capita consumption (from table 20). All means for individual population groups are unweighted.

[fol. 140] State Requirements on Pasteurization, Tuberculin Testing, and Abortion Testing

None of the State laws or regulations made mandatory the pasteurization of all milk, or even of all milk except certified.

Table 35.—Frequency of certain State requirements relative to pasteurization, tuberculin testing, and abortion testing

Item	Number of States	Required by Percent of the 43 States reporting
Pasteurization of all milk	0	0
Pasteurization of all except certified milk	0	0
Tuberculin testing of herds for all milk	23	53
Tuberculin testing of herds for milk consumed raw only	2	5
Abortion testing of herds for all milk	3	7
Abortion testing of herds for milk consumed raw only	1	2
Abortion testing of herds for grade A raw milk only	8	19

IN THE DISTRICT COURT OF THE UNITED STATES

(Caption—1680)

OPINION—Filed December 31, 1946

This action is brought to recover excise taxes paid on the sale of electrical energy by plaintiff under the provisions of Section 3411 of the Internal Revenue Code. The period involved is from April 1, 1940, to July 1, 1943, during which [fol. 141] time plaintiff sold electrical energy to various dairy customers engaged, among other things, in pasteurization of milk and functions normally incident to such pasteurization.

The dairies to which plaintiff sold electrical energy, with one exception, carried on their business substantially as follows: They took orders for the delivery of fresh milk

primarily to homes, but to some extent to hotels, restaurants and retail stores; they made contracts with farmers to purchase milk produced on their respective farms; in some instances the farmers delivered the milk to the dairies, but in other instances trucks and drivers furnished by the dairies were used for such hauling purposes; after the milk was received at the dairies, it was unloaded, weighed, tested, pasteurized and then placed in bottles and stored for a short period of time under refrigeration; the dairies later delivered the milk, on definite routes, to individual consumers and regular customers, daily or on alternate days, each dairy maintaining a fleet of trucks and wagons and drivers for this purpose. A few of the dairies did manufacture some cheese and butter, but with the exception of the Fabst Farm, their predominant sale was of fluid milk.

The material portion of the statute in question reads as follows:

"Section 3411(a). There shall be imposed upon electrical energy sold for domestic or commercial consumption and not for resale a tax equivalent to 3 per centum of the price for which so sold, to be paid by the vendor under such rules and regulations as the Commissioner, with the approval of the Secretary, shall prescribe.

In accordance with the interpretation made by the Commissioner of Internal Revenue of the provisions of Section 3411(a) above quoted, the plaintiff paid taxes on electrical energy it had sold to dairies during the period involved as "electrical energy sold for domestic or commercial consumption." The taxpayer's claim for refund was duly considered by the commissioner and disallowed, and this action was timely commenced.

The question to be here decided is: Are the sales of electrical energy to milk dealers and distributors, who pasteurized their milk as a part of their business, sales for other than commercial consumption within the meaning of Section 3411(a) of the Internal Revenue Code? It is the contention of the commissioner that the milk dealers to which the taxpayer in this case sold the electrical energy were engaged in the commercial business of distributing daily supplies of fresh unspoiled milk from farms to urban homes and places of business, and that the process of

pasteurization was but an incident thereto. He reasons, therefore, that such energy was for commercial consumption. The taxpayer contends that pasteurization constitutes a processing of milk, and that a large part of the electrical energy supplied to the dairies is used in such pasteurization; that such is not a commercial use of energy; and therefore the sale of electrical energy for that use is not a sale for commercial consumption.

Pasteurization of milk is accomplished by means of machinery and equipment specifically designed for that purpose, permitting milk to be raised to a temperature between 143° F. and 145° F. and maintained at such temperature for a period of about 30 minutes, and then to be subjected to sudden cooling to a point between 38° F. and 40° F. Precise timing and temperature controls are important and the treatment of the milk requires consecutive co-ordinated steps. The purpose of pasteurization is to kill pathogenic bacteria in the milk while staying within such tolerances as not to destroy the natural creaming properties of milk nor impart a scorched taste to it.

To permit the proper prompt cooling of the milk, the cooling equipment in pasteurization plants necessarily is of greater capacity than if cooling were to be merely from the temperature of the milk upon its receipt at the plant to a proper holding temperature. Electrical energy is used both directly and indirectly to further the heating and cooling steps in the pasteurization process used in dairy plants. It is used to agitate the milk, to pump milk to and from the pasteurizing vats, to pump hot water, and to pump refrigerants. Uses of electrical energy which indirectly assist in the pasteurization process are electrical consumption for plant lighting, for boiler feed pumps and for the operation of tools and cleaning devices.

For nearly a century the distribution of milk has existed in the United States as a distinct form of business. Pasteurization of milk on a substantial scale was not established in this country until 1897. It came into use in Milwaukee in 1903, and by 1915 it was quite common practice. But even at the present time there are more raw milk plants in the United States than those which pasteurize their milk. [fol. 143] In the cities of over 1,000 population in the United States, a majority of the milk dairies distribute unpasteurized milk; more than 25% of all milk sold in such cities

is not pasteurized. Two experts testified at the trial they had never heard of a dairy plant which pasteurized and bottled its milk which was not a distributor.

The taxpayer furnished 15 of the 28 dairies with which we are here concerned with more than one electric meter; however, they were not so connected with the load as to differentiate between sales for commercial and non-commercial consumption. In no instance was there a separate metering of electrical energy used by a dairy in its pasteurization process. The dairies' investment in pasteurizing equipment, including increased cooling equipment, is from 15% to 20% of the total cost of its plant equipment, but this percentage figure would be considerably smaller if the investment in such items as trucks and other vehicles, horses, bottles, cases, etc., were taken into consideration. Assuming the sale price of a quart of milk in Milwaukee was 16c, the cost of the milk itself was 9.6c, the distribution in bottles about 4c and the entire plant operations about 1c. About 1/10 of a cent of the cost of plant operations is attributable to pasteurization.

While pasteurizing is an important part of the business of the dairies here involved, they likewise utilize systems of rapid regular distribution of fresh milk to their customers, and maintain fleets of trucks, horse-drawn wagons and drivers, garages, loading and unloading facilities, weighing and testing devices, storage and refrigeration rooms, and machinery for putting milk into bottles at high speed.

The government makes no effort to collect a tax on the sale of electrical energy from dairies whose predominant business is the making and selling of butter, cheese, ice cream and similar products. However, the business of the dairies here involved was and is predominantly that of fluid milk dealers and distributors.

It seems quite clear that a dairy which does not pasteurize its milk conducts a commercial business. The fact that some dairies do pasteurize their milk does not thereby change the business from commercial to industrial.

A study of the legislative history of Section 3411 of the Internal Revenue Code discloses that those who were sponsoring the legislation understood it was the nature of the consumer's business which would be controlling and not [fol. 144] the specific operation in that business to which the electrical energy might be put. Representative Crisp, one

of the conferees, stated on the floor of the House of Representatives,

"The conferees finally agreed on a 3% sales tax on commercial and domestic consumers of electrical energy."

Senator Harrison, a member of the Senate Finance Committee which favorably reported the bill, in discussing a proposed revision in 1933, said:

"I am telling the Senators nothing new when I remind them that we had a fight here in 1932 over the imposition of this tax. The Senate imposed a three per cent electric-energy tax; and it was finally adopted, to be collected from the consumer of electric energy. We applied that only on domestic and commercial energy; that is, electric energy used in stores and dwellings that are classified as commercial and domestic. There was no tax in the 1932 act imposed upon energy employed in industry."

It would unduly prolong this opinion to quote more from the legislative history, but I have examined same. Such discussions are of considerable value in ascertaining the intent of Congress. *Helvering v. Griffiths*, 318 U. S. 371; *United States v. San Francisco*, 310 U. S. 16. I am convinced it was the intent of Congress that the incidence of the tax would not depend upon the particular operation in which the energy was to be used, but upon the nature of the business of which it formed a part. The intention was to tax sales of electricity to commercial businesses, meanwhile exempting sales to industry, and not to require an analysis of the specific functions in which electricity was used in commercial businesses if such uses were incidental to that business.

Since the enactment of the electrical energy tax in the Revenue Act of 1932, the Treasury has construed the provision imposing a tax upon electrical energy for commercial consumption to mean that if the predominant character of the consumer's business is commercial, its consumption of energy is commercial. Article 40 of Treasury Regulations 42 provided:

"Where the consumer has all the electrical energy furnished through one meter, the predominant charac-

- [fol. 145] ter of the business carried on at such location shall determine the classification of electrical consumption for the purposes of this tax."

This provision remained in Regulations 42 through every revision since 1932 and was adopted with only a minor change in Regulations 46 which have been in effect since 1941. During such period various revisions of the revenue laws have been made by Congress, including several affecting the electrical energy tax.

The Treasury has never construed the statute to mean that when electrical energy is sold to a business which is predominantly commercial, it is a sale for other than commercial consumption because some portion of the energy not separately metered is used in said business in a process akin to industrial use.

Plaintiff earnestly contends, however, that until 1941 Regulations 42 contain this phrase: "The term 'electrical energy sold for domestic or commercial consumption' does not include, (1) electrical energy sold for industrial consumption, *e.g.*, for use in manufacturing, processing, mining, refining, shipbuilding, building construction, irrigation" Plaintiff argues that pasteurization is a form of processing. It also sees significance in the fact the word "processing" was eliminated from the regulations in 1941.

It would be a fair method of construction to invoke the rule of *eiusdem generis*, and consider that the Treasury intended processing as therein used to be limited to certain processing engaged in by the industries of mining, refining, shipbuilding, building construction, irrigation, etc., specifically mentioned. Furthermore, shortly after the promulgation of the regulations, the Treasury issued Ruling ST 637 (XII-1 Cum. Bull. 409 (1933)), in which it held that a dairy which obtains milk and converts it into use for retail purposes is engaged in a business of commercial character and that the electrical energy used by it is subject to tax.

It is difficult to understand how the use of electricity in any activity or function could appropriately be called industrial without any reference to the business of which it is a part. Electrical energy might be used to operate an elevator, or light a building, or operate a pump, but that of itself is not sufficient to characterize the consumption of the energy as other than commercial, or industrial. Such was not the intention of Congress.

[fol. 146] The Court of Claims has held that whether a sale of electrical energy is for commercial consumption or industrial consumption must depend upon the predominant nature of the business, and not upon any particular use, at least where the entire operations are woven together and there is no separate metering for each. *St. Louis Refrigerating and Cold Storage Co. v. United States*, 43 F. Supp. 476. Although the taxpayer there manufactured and sold ice, and manufactured, sold and distributed refrigeration through pipe lines, and provided refrigeration for its warehouses located in various parts of the city of St. Louis, the court concluded that the entire business of the company was predominantly commercial rather than industrial, and therefore the electrical energy furnished to it was for commercial consumption.

In *United States v. Public Service Co. of Colorado*, 10 Cir., 143 F. (2d) 79, the court reached a conclusion opposite to the decision herein. The argument of the government that the case last above cited may be distinguished from the case at bar, because a stipulation therein stated that the dairies involved were each engaged principally in the business of pasteurizing, has considerable force, as the court did say (p. 80):

“ * * * the predominant use of electrical energy is in the pasteurization of milk or some necessary operation in connection therewith, * * * ”

However, it seems to me that that court's decision is contrary to the holding herein on the basis of the following statement in the opinion (p. 82):

“The electrical energy was not used in the commercial phase of the dairying enterprise, but in the processing or industrial phase of the enterprise.”

With due deference to the court announcing the decision in *United States v. Public Service Co. of Colorado*, *supra*, I do think that case was wrongly decided and that judgment herein must go for the defendant, dismissing the complaint to the extent it seeks return of taxes paid on sales of energy to twenty-seven milk dairies.

Dated at Milwaukee, Wisconsin, this 31st day of December, A. D. 1946.

(Signed) F. Ryan Duffy, Judge.

[fol. 147] IN THE DISTRICT COURT OF THE UNITED STATES

(Caption—1680)

Findings of Fact and Conclusions of Law.—Filed Jan. 23, 1947

This action came on to be heard on September 25, 1946, before the Court, sitting without a jury. Witnesses were sworn and testified, a stipulation of facts with attached exhibits was received, and, after both sides had rested, briefs were received and considered. And now the Court, being fully advised, enters the following

FINDINGS OF FACT

1. In this action, the plaintiff, hereinafter at times referred to as the taxpayers, is suing to recover internal revenue taxes levied and collected under the direction of the Commissioner of Internal Revenue, who purported to act under the authority of Section 3411(a) of the Internal Revenue Code. Taxpayer is a Wisconsin corporation and at all times herein mentioned was engaged in the business of supplying electrical energy to the public in the cities of Milwaukee and Racine, Wisconsin, and in territory adjacent thereto. Its principal office and place of business is in Milwaukee.
2. During the period from April 1, 1940, to July 31, 1943, the taxpayer was supplying electrical energy to certain customers engaged in the dairy business in and about Milwaukee and Racine, Wisconsin. The names of the dairies and the addresses from which their operations are directed are as disclosed in the bill of particulars which has been filed herein (and essentially is duplicated as Exhibit A to the stipulation of fact on record herein), to which reference is made.
3. Exhibit A to the stipulation also shows the number of electric service meters through which the electrical energy supplied is measured to the respective customers. Where one meter is shown, all energy consumed at the location indicated, whether for light or for power, is measured through that meter. Where two or more meters are used, the customer, in some cases, takes part of its energy under a refrigeration service rate, which is lower than regular

[fol. 148] commercial or power service rates, but which refrigeration service rate allows only use of refrigeration equipment, plus 25 per cent thereof of other incidental equipment other than lights. In other cases, two or more meters may be necessary because the customer has both single phase and three phase power equipment. The separate power meters are not so connected to the load as to enable the energy supplied for one purpose or another in the operations of the dairy plant to be differentiated.

4. The taxes paid by plaintiff in respect of the electrical energy furnished to the customers listed on Exhibit A during the period April 1, 1940, to July 31, 1943, and in a few cases into August, 1943, are shown in detail on Exhibit B attached to the stipulation, which is here incorporated by this reference. The rate of tax on and prior to June 30, 1940, was 3 per cent, and thereafter, was $3\frac{1}{3}$ per cent.

5. On May 25, 1944, the taxpayer filed a refund claim with the Collector of Internal Revenue at Milwaukee, demanding refund of all the taxes paid as shown by Exhibit B, on the ground that such sales of electrical energy had been erroneously treated in its tax return as sales for domestic and commercial consumption. Thereafter, on October 16, 1944, the Commissioner of Internal Revenue rejected and disallowed that claim for refund.

6. The record shows that one dairy listed in Exhibits A and B of the stipulation, Pabst Farms, is not engaged in fluid milk distribution. In all paragraphs of these findings, below this paragraph, it is to be understood that Pabst Farms is not included in the language used, even though such language seemingly is broad enough to include it. Pabst Farms is engaged in the business of producing, purchasing, and separating milk; also, in the manufacture and sale at wholesale of condensed skim milk and powdered skim milk. The cream separated is pasteurized and sold as butter fat to bakeries and ice cream manufacturers at Chicago. It owns a 1,300 acre farm near Oconomowoc, Wisconsin, on which is located several sets of buildings. Some of the buildings relate to the farm operations in connection with which a herd of about 200 cows is maintained. The plant, in which the operations of separating milk, pasteurizing the cream, and producing butter fat, condensed skim milk, and powdered skim milk is carried on, is located on the

same farm. In addition to handling at this plant the milk from its own herd of cows, Pabst Farms purchase milk from 210 dairy farms. The output of this plant (products made [fol. 149] from fluid milk) is sold mostly to the United States and to the bakery plants and ice cream manufacturers in the Chicago, Illinois, area, in a wholesale way.

7. The dairies listed in Exhibits A and B, which consume the electricity (except Pabst Farms, treated separately above), make contracts with farm producers at various places in Wisconsin to purchase their milk daily and at other regular intervals. In some instances the producers deliver the milk to the dairies; in others, trucks and drivers supplied by the dairies are used to bring the milk to the dairies. Except as retail or wholesale depots are maintained, or as deliveries are made to stores, each of the dairies delivers its milk and other dairy products directly to consumers by use of the horse-drawn vehicles and trucks. The consumers to whom the bulk of the products (mainly fluid milk) are delivered are regular customers, and the drivers of the vehicles, who are the employees of the dairies, in delivering the milk cover definite territories or routes each day, delivering regularly to each customer on alternate days, except where specific additional deliveries are requested by such customers. Before the war, deliveries were made daily, and sometimes even more frequently. In some instances, as noted in Exhibits D through N, attached to the stipulation, milk and other dairy products are sold and delivered by the dairies for resale, such as to restaurants, hotels, and stores.

8. For all the operations described in the preceding paragraph hereof, each dairy maintains a fleet of trucks and other vehicles, and drivers. In most cases, the drivers have standing orders to deliver specified amounts of milk each day. In other cases, the amounts are specified at the time of delivery. The drivers also collect for the milk delivered, obtaining payment from some customers in advance for the milk, from some at the time of delivery, and from some by the week.

9. For nearly a century the distribution of milk has existed in the United States as a distinct form of business. Pasteurization of milk on a substantial scale was not established in this country until 1897. It came into use in Mil-

waukee in 1903, and by 1915 it was quite common practice. But even at the present time there are more raw milk plants in the United States than those which pasteurize their milk. In the cities of over 1,000 population in the [fol. 150] United States, a majority of the milk dairies distribute unpasteurized milk; more than 25 per cent of all milk sold in such cities is not pasteurized. Two experts testified at the trial they had never heard of a dairy plant which pasteurized and bottled its milk which was not a distributor.

10. The City of Milwaukee, by ordinance, requires that milk sold in the city shall be pasteurized; and the State of Wisconsin has prescribed standards of purity in respect of milk sold within the state. Accordingly, the various dairies to which the taxpayer sells electrical energy have established "plants" where the milk is received in bulk and from which it is distributed to consumers in bottles or cans, and there the milk is pasteurized and tested or examined, in addition to being received, weighed, cooled, bottled, temporarily stored, and removed for subsequent delivery. The handling of the milk between receipt and sale involves substantially the following acts in all of the dairies (except Pabst Farms) described in Exhibits A and B, whether the milk is brought to the plant directly from the dairy's own cows (instances of this appear—Ruby, Hofmann) or from milk stations or country milk routes. If the weather is so unfavorable as to require it, the milk is cooled immediately to temperature to which it will be best kept after it has been weighed and tested for butter fat. The milk is then mixed and standardized, i. e., by adding richer or leaner milk (in butter fat content) as may be indicated. Except in the rare case where some unpasteurized milk is sold, the milk is next pasteurized.

11. Pasteurization of milk is accomplished by means of machinery and equipment specifically designed for that purpose, permitting milk to be raised to a temperature between 143° F. and 145° F. and maintained at such temperature for a period of about 30 minutes and then to be subjected to sudden cooling to a point between 38° F. and 40° F. Precise timing and temperature controls are important and the treatment of the milk requires consecutive co-ordinated steps. The purpose of pasteurization is to kill pathogenic

bacteria in the milk while staying within such tolerances as not to destroy the natural creaming properties of milk nor impart a scorched taste to it.

12. After leaving the pasteurization vats and coolers, the milk comes to tanks, from which it is drawn to be bottled, except as it is sold in cans to large users or enters into by-products. The bottles or cans have been washed, sterilized, [fol. 151] and cooled. After bottling, it is stored from several hours to a day to permit the cream line to form and to await delivery. It continues in this cold storage until sale or distribution. Such cold storage rooms are maintained at approximately 40° F.

13. All the "plants", including administrative offices, and garage space for the collecting and distributing trucks, and these are lighted. In each plant electric motors are used for some or all of the following purposes; for pumping refrigerants, for delivering milk to, through, and from the pasteurizers by pumps as necessary, for operating the homogenizer, where there is one, as shown in the exhibits, for delivering milk to the bottling machines, for operating the bottling machines, for operating cream separators, and for operating some of the machinery used in washing, sterilizing, and conveying bottles. The larger dairies differ from the smaller ones chiefly in the number of units available for different operations, such as a larger number of pasteurizing vats, more bottling machines, etc.

14. Exhibits D to I and K through N, which are attached to the stipulation on file herein, relate specifically to some one dairy involved in this case. By stipulation, because of no differentiating factor involved, all the dairies not covered by any exhibit have been agreed to be like (and controlled by) one of these exhibits, and thus details in respect of all 27 dairies are in the record. The following subjects, among others, are covered by the exhibits; the quantity of milk received by the dairy on the average during the period involved in this lawsuit; the number of motors in use during the period, showing their function; the gross receipts of the business in a typical year, and the percentages thereof applicable generally to sales, during the period involved, in respect of the various products delivered and sold to customers; the daily yield of the plant during the period covered; and the total personnel and duties assigned.

15. While pasteurizing is an important part of the business of the dairies here involved, they likewise utilize systems of rapid regular distribution of fresh milk to their customers, and maintain fleets of trucks, horse-drawn wagons and drivers, garages, loading and unloading facilities, weighing and testing devices, storage and refrigeration rooms, and machinery for putting milk into bottles at high speed. The record shows that pasteurization plays a [fol. 152] minor part in the total business of the dairies. It utilizes only a small fraction of the total personnel, causes only a minor part of the capital investments and accounts for an insignificant part of the cost of operations. The investment of the dairies in pasteurizing equipment, including increased cooling equipment, is from 15 per cent to 20 per cent of the total cost of its plant equipment, but this percentage figure would be considerably smaller if the investment in such items as trucks and other vehicles, horses, bottles, cases, et cetera, were taken into consideration. Assuming the sale price of a quart of milk in Milwaukee was 16 cents, the cost of the milk itself was 9.6 cents, the distribution in bottles about 4 cents, and the entire plant operations about 1 cent. About 1/10 of a cent of the cost of plant operations is attributable to pasteurization.

16. The predominant business of the dairies here involved (Except Pabst Farms) is, and was, that of fluid milk dealers and distributors. The electricity sold to them by plaintiff, as shown by Exhibits A and B, was sold for commercial consumption; it was sold and used in a commercial business.

17. If the parties file a stipulation, as provided in conclusion No. 1, below, it shall be taken as adopted here.

Based upon the foregoing findings of fact, the Court announced the following

CONCLUSIONS OF LAW

1. Plaintiff is entitled to a judgment against defendant for the sum shown by Exhibit B to have been sold to and consumed by Pabst Farms, i. e., for \$287.91, with interest, and with costs, according to law. (If the parties do not file a stipulation showing dates of payment by months of the sums making up the total of \$287.91, entry of judgment will be deferred to permit appropriate inquiry.)

2. The incidence of the tax on electrical energy does not depend upon the particular operation in which the energy is used, but upon the business of which it forms a part. Since the predominant business of the dairies here involved (except Pabst Farms) is, and was, that of fluid milk-dealers and distributors, the electricity sold to them by plaintiff, as shown by Exhibits A and B, was sold for commercial consumption; it was sold and used in a commercial business; it was taxable.

3. Plaintiff is entitled to no recovery in respect of the electrical energy sold by it to the dairies, except Pabst Farms, named in Exhibits A and B.

If stipulation showing dates of payment of tax on energy sold to Pabst Farms is filed, let judgment according to the foregoing conclusions be tendered by plaintiff (and approved by counsel for defendant, if found in order) within twenty days after the filing thereof.

Done at Milwaukee, Wisconsin, this 23 day of January, 1947.

F. Ryan Duffy, District Judge.

[fol. 154] IN THE DISTRICT COURT OF THE UNITED STATES

(Caption—1680)

JUDGMENT—Filed February 14, 1947

The above-entitled action having come on for trial before the above Court, without a jury, and the Court having heard and considered all the evidence adduced, and having heretofore filed its opinion in writing and having made its findings of fact and conclusions of law wherein the Court directs that judgment should be entered for the plaintiff and against the defendant only to the extent hereinafter provided;

Now, therefore,

It is hereby ordered and adjudged that the plaintiff recover of the defendant, United States of America, the total principal sum of Two Hundred Eighty-seven and 91/100 Dollars (\$287.91) paid by the plaintiff on and between May 28, 1940 and September 29, 1943 as tax on elec-

trical energy sold to Pabst Farms, and interest on said payments according to law, and that the complaint of the plaintiff be dismissed as to the balance of its claim therein and that it take nothing thereunder except as herein stated.

Dated at Milwaukee, Wisconsin, this 14th day of February, 1947.

F. Ryan Duffy, United States District Judge.

Approved: Van B. Wake, Attorneys for Plaintiff; E. J. Koelzer, Asst. U. S. Atty., Attorney for Defendant.

[fol. 155] IN THE DISTRICT COURT OF THE UNITED STATES FOR
THE EASTERN DISTRICT OF WISCONSIN

Civil Action No. 1680

WISCONSIN ELECTRIC POWER COMPANY, Plaintiff,

v.

UNITED STATES OF AMERICA, Defendant

NOTICE OF APPEAL—Filed May 12, 1947

Notice is hereby given that Wisconsin Electric Power Company, plaintiff above-named, hereby appeals to the Circuit Court of Appeals for the Seventh Circuit from the final judgment entered in this action on the 14th day of February, 1947, which limits the plaintiff's recovery to Two Hundred Eighty-seven and 91/100 (\$287.91) Dollars, and which denies the plaintiff any further recovery, and from the whole of said judgment except such part as does recognize that there is due to the plaintiff at least the said sum of Two Hundred Eighty-seven and 91/100 (\$287.91) Dollars.

Signed at Milwaukee, Wisconsin, this 12th day of May, 1947.

James D. Shaw and Van B. Wake, by Van B. Wake,
Attorneys for Plaintiff and Appellant.

To Timothy T. Cronin, U. S. District Attorney and E. J. Koelzer, Asst. U. S. District Attorney, Attorneys for Defendant and Appellee; Phillip R. Miller, Special Assistant

to Attorney General; W. B. Waldo, Special Assistant to Attorney General.

[fol: 156] IN THE DISTRICT COURT OF THE UNITED STATES

(Caption—1680)

STATEMENT OF POINTS—Filed May 12, 1947

As and for a statement of points, the plaintiff-appellant, Wisconsin Electric Power Company, asserts:

1. The Trial Court erred in its determination that because the sale by dairies of pasteurized milk could be said to involve an activity in the field of commerce, all steps taken and methods and processes utilized in preparing milk for consumption, including the employment of the art of pasteurization, could be characterized as being commercial in nature with the result that electrical energy sold by the plaintiff to such dairies should be considered as sold for commercial consumption and hence taxable within Section 3411 (a) of the Internal Revenue Code.

2. The following portions of the decision of the Court are specifically set forth as being illustrative of the error asserted:

"While pasteurizing is an important part of the business of the dairies here involved, they likewise utilize systems of rapid regular distribution of fresh milk to their customers, and maintain fleets of trucks, horse-drawn wagons and drivers, garages, loading and unloading facilities, weighing and testing devices, storage and refrigeration rooms, and machinery for putting milk into bottles at high speed.

The government makes no effort to collect a tax on the sale of electrical energy from dairies whose predominant business is the making and selling of butter, cheese, ice cream and similar products. However, the business of the dairies here involved was and is predominantly that of fluid milk dealers and distributors.

It seems quite clear that a dairy which does not pasteurize its milk conducts a commercial business. The fact that some dairies do pasteurize their milk does not thereby change the business from commercial to industrial.

A study of the legislative history of Section 3411 of

the Internal Revenue Code discloses that those who were [fol. 157] sponsoring the legislation understood it was the nature of the consumer's business which would be controlling and not the specific operation in that business to which the electrical energy might be put.

I am convinced it was the intent of Congress that the incidence of the tax would not depend upon the particular operation in which the energy was to be used, but upon the nature of the business of which it formed a part. The intention was to tax sales of electricity to commercial businesses, meanwhile exempting sales to industry; and not to require an analysis of the specific functions in which electricity was used in commercial businesses if such uses were incidental to that business.

With due deference to the court announcing the decision in *United States v. Public Service Company of Colorado*, supra, I do think that case was wrongly decided and that judgment herein must go for the defendant, dismissing the complaint to the extent it seeks return of taxes paid on sales of energy to twenty-seven milk dairies."

3. The following portions of the Findings of Fact and Conclusions of Law are specifically set forth as being illustrative of the error asserted:

(From Findings of Fact)

"16. The predominant business of the dairies here involved (except Pabst Farms) is, and was, that of fluid milk dealers and distributors. The electricity sold to them by plaintiff, as shown by Exhibits A and B, was sold for commercial consumption; it was sold and used in a commercial business."

(From Conclusions of Law)

"2. The incidence of the tax on electrical energy does not depend upon the particular operation in which the energy is used, but upon the business of which it forms a part. Since the predominant business of the dairies here involved (except Pabst Farms) is, and was, that of fluid milk dealers and distributors, the electricity sold to

them by plaintiff, as shown by Exhibits A and B, was sold [fol. 158] for commercial consumption; it was sold and used in a commercial business; it was taxable."

4. Plaintiff asserts that the reasoning adopted by the Trial Court fails to give appropriate weight to the factor that the dairies, whose electrical use is under consideration, had organized their enterprises to the end that pasteurization was a vital function upon which all other activities were dependent. Although fitness for ultimate disposition in commerce may be the ordinary objective in the productive process, such circumstance cannot establish the entire undertaking as commercial in character. *United States v. Public Service Co. of Colorado*, (C. C. A. 10th.), 143 F. (2d) 79.

5. The Trial Court erred in receiving evidence over the objection of the plaintiff and in subsequently utilizing the same, at least in part, as the groundwork of the Court's decision for the reason that such evidence was incompetent to establish the issue of the existence of a commercial use of electrical energy sold by the plaintiff to the several dairies. Such evidence, the objections thereto and the ruling on the objections are as follows:

"Mr. Wake: We should like for the purposes of the record, your honor, and consistent with my opening statement as to the stipulation, to object to the materiality and relevancy of certain facts which I will now point out.

The Court: Very well.

Mr. Wake: But our objection, of course, does not go to the accuracy or the type of evidence in the manner of presenting it.

On page 3, under Paragraph 5, about the fifth sentence, it starts as follows: 'The consumers to whom the products are delivered are regular customers,' et cetera throughout the balance of the paragraph. The plaintiff objects on the sole ground that while the evidence is unquestionably true, the plaintiff contends that that matter or the matters therein detailed are not competent, relevant nor material to the issue of law in the case.

Similarly, page 6 of the stipulation, where the reference is next preceding enumerated Paragraph 10: 'Total Personnel and Duties Assigned'. That is a reference to a description of a type of information that appears on practically all of the detailed exhibits. The plaintiff ob-

jects to the information of that character upon the same ground as assigned in the previous objection. [fol. 159] As to the method and manner of detailing all of the rated horse power output, the equivalent kilowatt input, estimated hours daily use—

The Court: What are you talking about now?

Mr. Wake: I am giving some general descriptions—kilowatt hours daily consumption, which is a schedule attached to each dairy study, the plaintiff conceding the approximate accuracy of those figures so far as they originate in estimates does not concede that that is an appropriate form or classification of setting forth the material so far as the issue of law is concerned.

The Court: Well, at this time the objection will be overruled but without prejudice to a later ruling when it comes to that point after the evidence is all in. I can't tell at this time."

(Hereinafter set forth are portions of Stipulation of Facts covered by objections and ruling)

(From page 3, paragraph 5 of Stipulation)

"The consumers to whom the products are delivered are regular customers, and the drivers of the vehicles, who are the employees of the dairies, in delivering the milk cover definite territories or routes each day, delivering regularly to each customer on alternative days, except where specific additional deliveries are requested by such customers. Before the war, deliveries were made daily, and sometimes even more frequently. In some instances, as noted in Exhibits D through N, milk and other dairy products are sold and delivered by the dairies for resale, such as to restaurants, hotels and stores. For all these operations, each dairy maintains a fleet of trucks and other vehicles, and drivers. In most cases, the drivers have standing orders to deliver specified amounts of milk each day. In other cases, the amounts are specified at the time of delivery. The drivers also collect for the milk delivered, obtaining payment from some customers in advance for the milk, from some at the time of delivery, and from some by the week."

James D. Shaw and Van B. Wake, Attorneys for Appellant.

[fol. 160] Bond on appeal for \$250.00 approved and filed May 12, 1947, omitted in printing.

[fol. 161] IN THE DISTRICT COURT OF THE UNITED STATES

* * (Caption—1680) * *

STATEMENT OF APPELLEE—Filed May 15, 1947

On behalf of the United States of America, appellee in the above-entitled matter, and in accordance with Rule 10(3) of the Rules of the Circuit Court of Appeals for the Seventh Circuit, there is hereby filed for inclusion in the Record on Appeal the names and addresses of the attorneys of record of said appellee as set forth below:

Dated, this 12 day of May, 1947.

Timothy T. Cronin, United States Attorney. E. J. Koelzer, Assistant United States Atty., Room 358 Federal Building, Milwaukee 1, Wisconsin. Philip R. Miller, Special Assistant to Attorney General. W. B. Waldo, Special Assistant.

[fol. 162] IN THE DISTRICT COURT OF THE UNITED STATES

* * (Caption—1680) * *

STIPULATION AS TO RECORD OF APPEAL—Filed June 10, 1947

It Is Hereby Stipulated by and between the parties, through their respective attorneys of record, that this stipulation may take the place of a designation for documents to be included in the record on appeal, and that such record on appeal to the Circuit Court of Appeals for the Seventh Circuit include such documents as hereinafter enumerated as numbers one (1) to seventeen (17) inclusive.

Dated at Milwaukee, Wisconsin, this 12 day of May, 1947.

James D. Shaw and Van B. Wake, by Van B. Wake,
Attorneys for Plaintiff-Appellant. E. J. Koelzer,
Asst. United States Attorney, Attorney for De-
fendant-Appellee.

1. Summons in Civil Action.
 2. Complaint.
 3. Answer of Defendant.
 4. Plaintiff's Bill of Particulars.
 5. Opinion of Judge Duffy, dated Dec. 31, 1946.
 6. Conclusions and Findings of Fact.
 7. Judgment.
 8. Stipulation of Fact.
 9. Transcript of testimony before Judge Duffy on September 25, 1946.
 10. Plaintiff's Exhibit 1—Schematic Diagram of a Dairy Plant Layout.
 11. Defendant's Exhibit A—"Public Health Bulletin No. 245—Milk Supplies and their Control in American Urban Communities, etc."
 12. Notice of Appeal.
 13. Bond.
 14. Statement of Appellee as to Names and Addresses.
 15. Statement of Points.
 16. Stipulation of Inclusion on Appeal.
 17. Stipulation for printing (if one filed).
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[fol. 163] Clerk's Certificate to foregoing transcript omitted in printing

[fol. 164]

PLACITA

At a regular term of the United States Circuit Court of Appeals for the Seventh Circuit, held in the City of Chicago, and begun on the First day of October, in the year of our Lord One thousand nine hundred and forty-six, and of our Independence the one hundred and seventy-first.

No. 9404

WISCONSIN ELECTRIC POWER COMPANY, Plaintiff-Appellant,

vs.

THE UNITED STATES OF AMERICA, Defendant-Appellee

Appeal from the District Court of the United States for the Eastern District of Wisconsin

And, to-wit, on the nineteenth day of June, 1947, there was filed in the office of the Clerk of this Court an appearance for the appellant, which said appearance is in the words and figures following, to-wit:

[fol. 165] UNITED STATES CIRCUIT COURT OF APPEALS FOR THE SEVENTH CIRCUIT

Cause No. 9404

WISCONSIN ELECTRIC POWER COMPANY, Plaintiff-Appellant,

vs.

THE UNITED STATES OF AMERICA, Defendant-Appellee

The Clerk will enter — appearance as counsel for Appellant.

James D. Shaw, Van B. Wake, 773 North Broadway,
Milwaukee 2, Wis.

Endorsed: filed June 19, 1947, Kenneth J. Carriek,
Clerk.

[fol. 166] UNITED STATES CIRCUIT COURT OF APPEALS FOR
THE SEVENTH CIRCUIT

Cause No. 9404

WISCONSIN ELECTRIC POWER COMPANY, Plaintiff-Appellant,

vs.

THE UNITED STATES OF AMERICA, Defendant-Appellee

The Clerk will enter — appearance as counsel for Appellee.

Sewell Key, Acting asst. atty. Gen.

Endorsed: filed June 19, 1947, Kenneth J. Carrick, Clerk.

[fol. 167] UNITED STATES CIRCUIT COURT OF APPEALS FOR
THE SEVENTH CIRCUIT

Cause No. 9404

WISCONSIN ELECTRIC POWER COMPANY, Plaintiff-Appellant,

vs.

THE UNITED STATES OF AMERICA, Defendant-Appellee

The Clerk will enter — appearance as counsel for appellee.

Timothy T. Cronin, U. S. Atty.; E. J. Koelzer,
Asst. U. S. Atty., 358 Federal Bldg., Milwaukee,
Wis.; William B. Waldo, Tax Div., Off. of Atty.
General, Washington 25, D. C.

Endorsed: Filed Jan. 2, 1948; Kenneth J. Carrick, Clerk.

[fol. 168] UNITED STATES CIRCUIT COURT OF APPEALS FOR
THE SEVENTH CIRCUIT

Chicago 10, Illinois

May 13, 1948.

Before Hon. Otto Kerner, Circuit Judge; Hon. Sherman
Minton, Circuit Judge; Hon. Walter C. Lindley, District
Judge.

No. 9404

WISCONSIN ELECTRIC POWER COMPANY, Plaintiff-Appellant,

vs.

THE UNITED STATES OF AMERICA, Defendant-Appellee

Appeal from the District Court of the United States for
the Eastern District of Wisconsin

Now this day come the parties by their counsel, and this cause comes on to be heard on the printed transcript of the record, the briefs of counsel, and on oral argument by Mr. Van B. Wake, counsel for the Appellant, and by Mr. Phillip R. Miller, counsel for the Appellee, and the Court takes this matter under advisement.

[fol. 169] IN THE UNITED STATES CIRCUIT COURT OF APPEALS
FOR THE SEVENTH CIRCUIT, OCTOBER TERM, 1947, APRIL
SESSION, 1948

No. 9404

WISCONSIN ELECTRIC POWER COMPANY, Plaintiff-Appellant,

v.

THE UNITED STATES OF AMERICA, Defendant-Appellee

Appeal from the District Court of the United States for
the Eastern District of Wisconsin

May 26, 1948

Before Kerner and Minton, Circuit Judges, and Lindley,
District Judge.

KERNER, Circuit Judge:

This is a suit to recover moneys claimed to have been wrongfully collected for the sale of electrical energy. Plaintiff sold electrical energy to various dairy customers engaged in pasteurization of milk and functions normally incident to such pasteurization. The question before the District Court was whether such sales were sales for other than commercial consumption.

The Internal Revenue Code (26 U. S. C. A. § 3411(a)) provides for the imposition of a tax to be paid by the vendor of electrical energy sold for commercial consumption.

The case was heard by the trial judge, without a jury, upon [fol. 170] evidence and stipulation of the parties. Plaintiff contended that pasteurization is a processing of milk; that the electrical energy sold by it to the dairies was used by the dairies in pasteurization; and hence that was not a commercial use of the electrical energy.

The trial judge made findings of fact and filed an opinion reported in 69 F. Supp. 743, in which he correctly set forth the controlling facts, discussed pasteurization, the legislative history of the section of the Act here involved, and the regulations promulgated by the Secretary; and concluded that the incidence of the tax did not depend upon the particular operation in which the energy was used, but upon the business of which it formed a part, and that since the predominant business of the dairies was that of fluid milk dealers and distributors, the electricity sold to the dairies by plaintiff was sold for commercial consumption.

In this court plaintiff challenges the District Court's conclusion. It argues that pasteurization partakes of the nature of an industrial activity, and cannot be characterized as a commercial activity, and cites the case of *United States v. Public Service Co.*, 143 F. 2d 79, in which the court held, under the facts in that case, that electrical energy sold to dairies and used in pasteurization was not sold for commercial consumption within the meaning of the Act.

We have studied the *Public Service Co.* case, *supra*, and *Michigan Allied Dairy Assn. v. Auditor General*, 302 Mich. 643, 5 N. W. 2d 516, as well as the other cases cited by plaintiff, and considered plaintiff's argument, but we have not been persuaded that the court erred in holding that the proper test to be applied in determining whether the electricity used by a particular consumer falls within the term "commercial consumption" is whether the predominant [fol. 171] character of the enterprise carried on by such consumer is commercial. We agree with Judge Duffy that the wording and legislative history of the Act make it clear that the predominant character of the business carried on by a consumer of electrical energy is what determines whether the electricity sold has been sold for "commercial

consumption"; hence we are content to adopt his opinion as that of this court.

Affirmed.

A true Copy. Teste:

— — —, Clerk of the United States Circuit Court
of Appeals for the Seventh Circuit.

[fol. 172] **UNITED STATES CIRCUIT COURT OF APPEALS FOR
THE SEVENTH CIRCUIT**

May 26, 1948.

Before Hon. Otto Kerner, Circuit Judge; Hon. Sherman Minton, Circuit Judge; Hon. Walter C. Lindley, District Judge.

No. 9404

WISCONSIN ELECTRIC POWER COMPANY. Plaintiff-Appellant,

vs.

UNITED STATES OF AMERICA, Defendant-Appellee

**Appeal from the District Court of the United States for
the Eastern District of Wisconsin, — Division**

This cause came on to be heard on the transcript of the record from the District Court of the United States for the Eastern District of Wisconsin, — Division, and was argued by counsel.

On consideration whereof, it is ordered and adjudged by this Court that the judgment of the said District Court in this cause appealed from be, and the same is hereby, **Affirmed.**

[fol. 173] And afterwards, to-wit, on the sixteenth day of June, 1948, the mandate of this Court issued to the United States District Court for the Eastern District of Wisconsin.

[fol. 174] UNITED STATES CIRCUIT COURT OF APPEALS FOR
THE SEVENTH CIRCUIT

I, Kenneth J. Carrick, Clerk of the United States Circuit Court of Appeals for the Seventh Circuit, do hereby certify that the foregoing typewritten pages contain a true copy of proceedings had and papers filed in this Court (excepting the briefs of counsel, and a stipulation and order in re: printing of the record) in Cause No. 9404, Wisconsin Electric Power Company, Plaintiff-Appellant vs. The United States of America, Defendant-Appellee as the same remains upon the files and records of the United States Circuit Court of Appeals for the Seventh Circuit.

In testimony whereof I hereunto subscribe my name and affix the seal of said United States Circuit Court of Appeals for the Seventh Circuit, at the City of Chicago, this twenty-second day of June A. D. 1948.

Kenneth J. Carrick, Clerk of the United States Circuit Court of Appeals for the Seventh Circuit,
by R. Hays Blanchard, Chief Deputy Clerk. (Seal.)

[fol. 175] SUPREME COURT OF THE UNITED STATES

ORDER ALLOWING CERTIORARI—Filed October 18, 1948

The petition herein for a writ of certiorari to the United States Court of Appeals for the Seventh Circuit is granted.

And it is further ordered that the duly certified copy of the transcript of the proceedings below which accompanied the petition shall be treated as though filed in response to such writ.

Endorsed on cover: File No. 53,239: U. S. Circuit Court of Appeals, Seventh Circuit, Term No. 237. Wisconsin Electric Power Company, Petitioner, vs. The United States of America. Petition for writ of certiorari and exhibit thereto. Filed August 21, 1948. Term No. 237 O. T. 1948.

(9285)